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Substance Abuse Post-Spinal Cord Injury: A Manual for Occupational Therapists

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SUBSTANCE ABUSE POST-SPINAL CORD INJURY: A MANUAL FOR OCCUPATIONAL THERAPISTS

by

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TABLE OF CONTENTS

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ABSTRACT

Purpose: The purpose of this scholarly project was to assist therapists in physical rehabilitation settings to begin addressing and treating substance abuse with patients post spinal cord injury (SCI). The project provides therapists with a resource guide to use for identifying specific screenings, occupational therapy assessments, intervention strategies, and discharge recommendations that may be useful during treatment sessions.

Methods: The literature review was conducted on the topics of substance abuse and SCIs. Research identified there is a lack of substance abuse recognition and treatment by healthcare professionals in a physical rehabilitation setting as many healthcare professionals such as occupational therapists either ignore the substance abuse problems or refer patients to other services. This may be due to lack of knowledge, training or experiences working with the substance abuse population.

Results: The information from the review of literature guided the development of the product. The manual provides information and resources regarding screenings that may predict substance abuse. Included in the manual are information and resources regarding occupational therapy assessments that may be beneficial for this population in order to determine the impact substance abuse has on patients' post-SCIs occupational performance and quality of life. Intervention strategies that may be useful for the substance abuse population along with occupational therapy approaches and enablement skills are described within the manual. Lastly, the manual briefly addresses discharge recommendations for the patients for continuation of services if necessary.

CHAPTER I

INTRODUCTION

In the U.S. there are approximately 12,000 new cases of spinal cord injuries (SCIs) per year; the National Spinal Cord Injury Database identifies there are between 236,000 and 327,000 individuals living with SCIs in the U.S. (National Spinal Cord Injury Statistical Center [NSCISC], 2012). There are a number of causes of SCIs; some of the most common causes include traffic accidents, falls, violence mainly related to gunshot injuries, and sporting accidents like gymnastics, diving, and rugby (Hagen, Rekand, Gilhus, & Gronning, 2012). According to NSCISC (2012), traffic accidents cause 39.2% of SCIs, while 28.3% are caused by falls, 14.6% from violence, 8.2% from sports, and 9.7% of SCIs have an unknown cause. Although a SCI may occur within all populations, the population affected most by SCIs is the young male adult population. Among all the SCIs reported, 80.6% occur in the male population (NSCISC, 2012). Individuals living with SCIs have a high price to pay as far as medical costs are concerned. The NSCISC (2012) estimated that, depending on the level of injury and the amount of care needed, the costs range from approximately $236,000-$801,000 during the first year of the injury. The estimated lifetime costs range from approximately $510,000-$3,160,000 depending on the age of the injury, SCI level, and amount of care needed (NSCISC, 2012). Other factors, such as substance abuse, may increase the overall medical cost (Hawkins & Heinemann, 1998).

There is a lack of substance abuse recognition and treatment in rehabilitation settings. Although substance abuse occurs often with patients with a SCI, many health care professionals neglect this issue or give it little attention due to lack of training, knowledge, or experience with substance abuse. Rehabilitation and substance abuse treatment integration may help reduce the substance abuse behaviors among individuals with a SCI (Schmidt, Heinimann, & Semik, 1996). Although many health care professionals working in a rehabilitation setting are aware of the need to address substance abuse in individuals' post-SCI, many do not take the initiative to address the problem or provide treatment. Mask (1993) conducted a study surveying the attitudes of staff members in regards to substance abuse while providing care with patients with SCIs. The majority of the patients reported that staff members recognized substance abuse, but did not provide any treatment nor did they suggest any solutions. When staff members were asked about their response to substance abuse problems, none of them reported providing treatment or suggesting solutions. Instead, the health care professionals referred the patient to other mental health services or simply ignored the issue (Mask, 1993).

The risk of depression is high among people who suffer from a SCI as well as a decreased quality of life, which leads to a tendency to abuse substances (Tate, Forchheimer, Krause, Meade & Bombardier, 2004). It is important for occupational therapists to help patients with a SCI find healthy coping mechanisms and appropriate resources in the community before discharging them home or to another level of care. If patients are not provided with resources and do not learn healthy coping strategies, it is likely that they may continue to engage in substance abuse behaviors after discharge.

Occupational therapists in all settings should have the knowledge to address substance abuse and provide appropriate care and resources (Roush, 2007). Occupational therapists should recognize and address all aspects influencing occupational performance, including substance abuse, rather than referring patients to mental health services after the fact. Occupational therapists should not only complete screenings and evaluations to determine if there is a substance abuse problem, they must also address the information gained from the screening and/or evaluation while providing interventions.

Due to the lack of substance abuse screenings and interventions in rehabilitation settings, a manual with resources was created to provide occupational therapists working in a rehabilitation setting with suggestions on how to address substance abuse post-SCI. The goal of this manual is to increase the comfort and confidence level of the occupational therapists ability to address psychosocial factors, specifically substance abuse. Utilization of this manual serves as a guide for occupational therapists when addressing substance abuse post-SCI when determining what screenings, assessments, approaches, and interventions to utilize.

The Canadian Model of Occupational Performance (CMOP) is an occupational behavioral model that details how the interaction of the person, environment, and the occupation work together to ultimately effect occupational performance (Townsend & Polatajko, 2007). This model is used to guide the development and implementation of the manual. The purpose of the manual is to assist occupational therapists in addressing the physical, cognitive, and affective factors of a person experiencing a SCI who are at risk for substance abuse.

Chapter II provides an extensive literature review on SCIs, substance abuse, implications for treatment, and the roles of the multidisciplinary team members as well as the role of an occupational therapist when addressing substance abuse with patients' post-SCI in a rehabilitation setting. Chapter III illustrates the activities and methodology used to develop the literature review and product. A summary of the product is found in chapter IV. The complete manual includes substance abuse screenings, occupational therapy assessments, interventions, and approaches to utilize with patients' post-SCI when addressing substance abuse can be found in the appendix. The manual provides additional resources for occupational therapists to utilize. Chapter V provides a summary of the findings of the literature review and recommendations for implementation and further research.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The focus of the literature review was to identify research related to the topics of spinal cord injuries (SCIs), substance abuse, and implications of recovery post-SCI. Included are the effects substance abuse has on SCI rehabilitation potential and the implications of interventions plus the cost of healthcare. The literature review addresses the main stages of SCI recovery with the focus being the role of the multidisciplinary team members as well as the roles and responsibilities of the occupational therapist.

Risk & Prevalence

This section of the literature review focuses on SCIs and the specific causes, populations affected, as well as financial costs for a SCI. Substance abuse, including the definition, symptoms, causes, risk factors, and populations affected is addressed. A review of the relationship between substance abuse and SCIs is included. The risks and implications substance abuse has on SCI recovery and additional associated medical conditions are described.

Spinal Cord Injury

A SCI is a traumatic event that interrupts the lives of many individuals. SCIs can affect every functional aspect of an individual's life including the way they carry out their daily routine, their ability to get around the community, and general ability to care for

themselves and others. The injury has devastating effects on psychological aspects such as feelings of confusion, depression, anxiety, and overall decreased quality of life. The way SCIs affect individuals vary in terms of function, pain, quality of life, and overall outcomes; this is dependent on the level of injury, impact of rehabilitation, and how the individual takes care of themselves while in the phases of recovery (Atkins, 2008).

There are numerous causes of SCIs. Hagen et al. (2012) found that the most common causes of SCIs are traffic accidents followed by falls, violence mainly related to gunshot injuries, and sporting accidents like gymnastics, diving, and rugby. The National Spinal Cord Injury Statistical Center (NSCISC) (2012) reported traffic accidents cause 39.2% of SCIs, while 28.3% are caused by falls, 14.6% by violence, 8.2% from sports, and 9.7% from unknown causes. The spectrum of a fall related SCI may result from something as small as slipping on a bathroom rug to falling from a high piece of equipment at work. Suicidal attempts may also cause a SCI (Hagen et al., 2012).

Although a SCI may occur within all populations, the population affected most by SCIs is the young male adult population. Among all SCIs reported, 80.6% occur in the male population. The NSCISC (2012) found that the general age of the U.S. population has increased, so therefore the average age of the onset of a SCI has increased from 28.7 to 41.0 years.

Individuals living with SCIs have high medical costs associated with the injury and ongoing medical care. The NSCISC (2012) estimated that, depending on the level of injury and the amount of care needed, the costs range from approximately $236,000-$801,000 during the first year of the injury. The estimated lifetime costs range from approximately $510,000-$3,160,000 depending on the age of the injury, SCI level, and

amount of care needed. The amounts can vary tremendously dependent upon the individual's adaptations to their new lifestyle, employment status, and presence of co-occurring medical complications. Individuals with SCIs are living longer lives but the life expectancies are still lower than those individuals without SCIs. There are many medical complications that can shorten individuals with SCIs life expectancies, including pneumonia, pulmonary emboli and septicemia (NSCISC, 2012). It is possible for individuals with SCIs to live long, healthy lives and experience a positive quality of life. However, it is important that individuals with SCIs start treatment immediately in order to improve quality of life and reduce the risks of depression, suicide, and substance abuse.

Substance Abuse

The literature contains a variety of different definitions for substance abuse. According to the American Psychiatric Association (2000), substance abuse occurs when one engages in a maladaptive pattern of substance use which leads to significant impairment or distress. This impairment or distress is manifested by at least one of the following symptoms within a twelve month period: recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home; recurrent substance use in situations in which it is physically hazardous; recurrent substance-related legal problems; continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance (American Psychiatric Association, 2000).

Substance abuse is considered a "substance use disorder" when an addiction is present, when one engages in a frequent pattern of substance use, and when compulsivity

and danger are involved (Center for Substance Abuse Treatment [CSAT], 2004). When a continuous pattern of substance use occurs, it is likely that the user has an addiction to the drug(s). When a drug addiction is present, the individual using the drug(s) needs it in increased amounts. The longer one uses drugs, the increased amount of drugs they will require in order to feel the desired effects, increasing their tolerance (American Occupational Therapy Association [AOTA], 2002). Some researchers believe that substance abuse is a long-term illness (CSAT, 2004). Substance abuse is more likely considered a long-term illness with one who starts using substances at a young age. The earlier one starts to use substances, the more likely they are to become addicted and dependent on those substances. The earlier one becomes addicted and dependent on substances, the harder it will be to stop using those substances (CSAT, 2004).

It is important to clarify that there is a difference between substance use and substance abuse. Substance abuse refers to the consistent pattern of using mood-altering substances, while substance use refers to the misuse of substances. Substance abuse typically involves addiction, increased tolerance, and withdrawal due to the consistent substance use pattern. However, there is not necessarily an abuse pattern with substance use, so addiction, tolerance, and withdrawal symptoms are not always associated with substance use (AOTA, 2002).

There are a number of drugs that fall into the "mood-altering substances" category. Some of the most commonly used drugs include alcohol, amphetamines, caffeine, marijuana, cocaine, hallucinogens, inhalants, nicotine, pain relievers, and sedatives (AOTA, 2002). The National Survey on Drug Use and Health (NSDUH) defines an *illicit drug* as "marijuana/hashish, cocaine (including crack), inhalants,

hallucinogens, heroin, or prescription drugs used for non-medical purposes" (U.S. Department of Health and Human Services, 2006b, p. 1). According to AOTA (2002), the most commonly used substance is alcohol.

There are many symptoms that are associated with substance abuse. It may be possible that those with substance abuse will project guilt and blame on others, including close friends and family members, for their own problems. Denial is also another common symptom of substance abuse. Many people may feel as though they do not have a problem and feel as though abusing substances is normal. Even if people do recognize that a problem does exist, they may still wish to deny the problem (CSAT, 2004).

Other common symptoms include an increased tolerance, cravings, loss of control, physical dependence, and withdrawal symptoms (CSAT, 2004). The revised fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) states that substance dependence is similar to substance abuse in that it occurs when a maladaptive pattern of substance abuse leads to a great amount of impairment or distress (American Psychiatric Association, 2000). Three or more of the following symptoms must occur within a twelve month period: tolerance; withdrawal; substance is used in larger amounts over a longer period of time than intended; persistent desire or unsuccessful efforts to cut down or control use; large amount of time spent in activities necessary to obtain and use the substance as well as recover from its effects; reduction or withdrawal from important social, occupational, or recreational activities; continued use despite the knowledge of having a recurrent physical or psychological problem that is caused or worsened from the substance (American Psychiatric Association, 2000).

Tolerance refers to the amount of substances one needs in order to get "high" or feel the desired effects (CSAT, 2004). The longer one uses substances and the more substances one uses, the higher the tolerance will become and the more substances they will desire. Those who abuse substances also will have cravings for substances of their choice, despite the negative effects/consequences. When cravings are not satisfied, one may become irritable or anxious. Cravings are likely a symptom of addiction (CSAT, 2004).

Physical dependence and withdrawal go hand in hand with substance abuse (CSAT, 2004). One who is dependent on substances may feel they need desired substances at all times and may feel they need substances in order to function properly and carry out their daily routines. Withdrawal symptoms are also common with substance abuse. When one stops using substances at any point in time, they may experience withdrawal symptoms due to their cravings and physical dependence. Common withdrawal symptoms include nausea, sweating, shakiness, and anxiety (CSAT, 2004). For many, the only way to get rid of the withdrawal symptoms is to use the desired substance. Another common substance abuse symptom includes loss of control, which is likely caused by other symptoms, such as cravings, withdrawal symptoms, and physical dependence. Loss of control may occur when one cannot control the amount of substances they use. For example, one might plan on taking a small amount of substances, but due to their loss of control from other symptoms, may end up taking a large amount of substances. Loss of control also occurs when one cannot control when or where they use substances. For example, one may be at a social gathering where he or

she did not plan on using substances, but due to loss of control and other symptoms, may end up using substances (CSAT, 2004).

One of the most serious symptoms of substance abuse is the health concerns it may cause. Substances have a negative effect and cause damage to the human body. A few of the health concerns include liver damage, cancer, high blood pressure, psychological disorders, as well as injuries that may occur from the altered state from the substances (U.S. Department of Health and Human Services, 2006a).

It is still unknown exactly what causes substance abuse; however, genetics play a large role (CSAT, 2004). If there is a family history of substance abuse, it is likely that "substance abuse" genes will be passed down to younger generations. Although genetics may be the leading cause of substance abuse, other factors include the environment, psychological traits, stress levels, as well as the ability to cope with stress (CSAT, 2004). A contributing factor to substance abuse is self-image (Weiss, Merrill, & Akagha, 2011). Adolescents who report low self-image are more likely to use substances, specifically alcohol and marijuana, more often than those adolescents who report a higher self-image.

The rate of drug use and the number of drinkers continues to increase (Stoffel & Moyers, 2004). According to Office of Applied Studies (as cited in Stoffel and Moyers, 2004), "an estimated 22 million people were classified with dependence on or abuse of either alcohol or illicit drugs" (p. 570). Substance abuse is an illness that can affect anybody. Substance abuse affects all genders, ages, races, ethnicities, and regions of the world. Substance abuse also affects the employed and unemployed as well as the rich and poor (CSAT, 2004).

Many people who abuse substances start abusing before the legal age. According to the U.S. Department of Health and Human Services (2004a), 74% of adults in 2003 age 21 and older reported using alcohol before the legal drinking age of 21. Of the 74%, the majority (55%) started using alcohol between ages of 15 and 20. Those who reported initiating alcohol use at a younger age were more likely to experience alcohol abuse. According to the NSDUH report from 2002-2004, the highest percentage of drug abuse (17.4%) occurred in the 18-25 age group (U.S. Department of Health and Human Services, 2006a). Females were more likely than males to abuse substances within the age group of 12 to 17 years. However, males were more likely than females to abuse substances in all other age groups (U.S. Department of Health and Human Services, 2004b).

According to results of NSDUH, males age 21 or older reported using alcohol before legal age more often than females (83% vs. 65%). Males also reported initiating alcohol use at a younger age more often than females (U.S. Department of Health and Human Services, 2004a). The results from the NSDUH study found 7% of adults age 21 and older were reported as having either alcohol dependence or abuse. Among individuals 12 years and older, males were twice as likely as females to have substance abuse (12% vs. 6 %).

The NSDUH also compared alcohol use among four different races/ethnic groups: Caucasians, African Americans, Asians, and Hispanics. Results show that Caucasians had the highest percentage of initiating alcohol use at a young age as well as the lowest percentage in the categories of "never used alcohol" and "initiated alcohol use at age 21." Caucasians were more likely to initiate alcohol use between the ages of 12 and 17 (U.S.

Department of Health and Human Services, 2004a). Weiss, Merrill, and Akagha (2011) compared alcohol and marijuana use across four ethnic groups: African Americans, Asian Americans, Hispanics, and Whites. Their study results found that alcohol use was highest within the Hispanic and White ethnic groups, while marijuana use was highest within the Hispanic and African American ethnic groups.

Contributing Factors to Substance Abuse Post-SCI

Individuals whom may have a history of substance abuse may be more prone to abuse post-SCI. The individuals' history with alcohol and illicit drugs and their previous inability to use healthy coping mechanisms may inhibit their ability to properly cope with the loss of function from a SCI. Kolakowsky-Hayner et al. (2002) described the patterns of individuals with SCIs or traumatic brain injuries related to use of alcohol or illicit drugs pre/post injury. The researchers found a difference in post-injury results related to alcohol abuse. Of the individuals who were heavy drinkers pre-injury, "29.4% remained heavy drinkers, 23.5% decreased drinking to moderate level, 5.9% became infrequent drinkers, and over 40% became abstinent" (Kolakowsky-Hayner et al., 2002, p. 587). Many of the light drinkers and infrequent drinkers increased to the moderate level of drinking or became abstinent.

Since substance abuse does not just deal with alcohol, Kolakowsky-Hayner et al. (2002) also directed their study to illicit drug use/abuse for individuals with pre-/post-spinal cord and traumatic brain injuries. Many individuals who reported using drugs pre-injury (54.5%) discontinued use post-injury while a small number of individuals who reported no use pre-injury began using illicit drugs post-injury (4.2%).

Individuals experiencing a disability will go through a process of learning to adapt and cope with their functional limitations (Smedema & Ebener, 2010). Some may easily adapt to their situation and may require no further assistance with learning to cope while others may experience extreme difficulty with learning to adapt. The risk of substance abuse is higher among individuals with disabilities, which can cause decreased ability to care for self, increased medical complications, and overall decreased health status. According to Smedema and Ebener (2010) some of the major contributing factors to increased substance abuse risks include "pain and other medical problems that may lead to misuse of prescription medication and/or self-medication with non-prescription substances, societal enabling of persons with disabilities, a lack of timely identification of potential problems, and a lack of accessible and appropriate prevention and treatment services" (p. 1312).

According to the CDC (2010) alcohol has been found to be involved in twenty-five percent of all SCIs. Bombardier and Rimmele (1998) reported pre-injury substance abuse tends to continue into post-injury substance abuse. Researchers stated that post-injury substance abuse can have significant effects on the success and participation during rehabilitation. Smedema and Ebener (2010) stated "It may limit rehabilitation outcomes by contributing to functional limitations" (p. 1312). Self-destructive behaviors like substance abuse can negatively affect the outcomes of rehabilitation and may limit the individual making gains during recovery.

The presence of psychosocial factors like anxiety and depression can have an impact on the risks for substance abuse post-SCI. Depression is one of the most common secondary symptoms for individuals with SCIs; it can impair overall quality of life and

decrease life satisfaction. According to Elliot and Kennedy (2004), there have been no studies focusing on relieving depression among individuals with SCIs. Research regarding the effectiveness of antidepressants with individuals with SCIs has not been completed (Elliot & Kennedy, 2004).

Often times individuals have difficulty adjusting to a physical disability. When individuals reach the point of adaptation they often exhibit more "independence and interdependence, positive self-esteem, self-efficacy, personal mastery, and adaptive coping" (Smedema & Ebener, 2010, p. 1312). Depression may be more common when substance abuse is combined with a disability due to the lack of coping skills (Findley, Banerjea, & Sambamoorthi, 2011). Patients with SCIs may have co-occurring substance abuse and mental illnesses along with physical illnesses, which can complicate treatment.

Treatment of depression can help to reduce the risks for substance abuse among persons with disabilities. No matter what types of substances are abused, there is an increased risk of mortality for individuals with disabilities. Substance abuse has a high prevalence among individuals with SCIs; this can affect many aspects of their health and recovery. The importance of integrating substance abuse treatment in physical rehabilitation facilities was recommended by Findley, Banerjea, and Sambamoorthi (2011) to improve overall care for individuals with SCIs.

Coping skills are an essential part of dealing with a physical disability. Coping refers to the actions that are taken when stressful or difficult life events occur in an individual's daily life. When an individual experiences a situation that affects their well-being, coping is the response that takes place in order to positively adjust to the situation.

Some examples of healthy coping skills include writing, creative expression, relaxation, meditation, and exercise (Haertl & Christiansen, 2011).

The availability and presence of a support system was identified as a positive coping strategy for individuals with SCIs (Augutis and Anderson, 2012). The researchers completed a study that addressed the coping skills used by young adults with SCIs and discovered that the presence and availability of social supports, including friends and family, was most important and most helpful to the patients recovering from their injury. The researchers identified the importance of healthcare professionals' encouragement to family and friends to support the patient in any and all ways possible. The patients were also advised to seek out social supports to aid in their recovery. The importance of role models in rehabilitation was also noted as important in the recovery process. Role models can help to promote healthy, active lifestyles and can assist patients in discovering their identity while living with a SCI. With an established support system, the risks of co-occurring medical conditions or psychosocial illnesses may be greatly reduced which may increase life expectancy and overall quality of life among individuals with SCIs (Augutis & Anderson, 2012).

Effect on Rehabilitation Potential: Implications for Treatment Management

Having substance abuse or any other psychological disorder as a co-existing illness/disorder can cause complications with the recovery process. Patients who refuse formal treatment for substance abuse but do still want to change their behaviors may be more successful during interventions implemented during rehabilitation. Patients can be instructed in self-change strategies, but the patient has to want the change before the change can occur (Turner, Bombardier, & Rimmele, 2003). Psychosocial disorders or

issues that interfere with physical disability rehabilitation may become apparent through how the patients care for themselves, adapt to life's problems, and with the use of substances. Substance abuse disorder is associated with other co-morbid conditions for patients with SCIs, such as pressure ulcers and urinary tract infections (UTIs). Hawkins and Heinemann (1998) found that substance abuse post-injury was related to post-injury pressure ulcers. The factors of age of patient and level of injury help to determine the risk that patients have for developing pressure ulcers. The researchers reported that pressure ulcers have been linked to individuals who have difficulty accepting responsibility for self-care. Individuals who have poor self-care skills often have continuing health problems and future hospitalizations.

Healthy coping skills for individuals engaged in or have a history of substance are often lacking and don't necessarily become apparent until the patients are integrated back into the community (Hawkins & Heinemann, 1998). It was recommended that healthcare professionals monitor patients "psychological well-being and explore individuals' understanding of and adherence to self-care regimens; clinicians should also examine why and how alcohol and substance use patterns change over time and how self-care behaviors are affected" (Hawkins & Heinemann, 1998, p. 229).

Rehabilitation potential is often limited when individuals engage in substance abuse patterns post-injury. The outcomes of rehabilitation may be negatively impacted by additional functional limitations and substance abuse related self-destructive behaviors. Smedema and Ebener (2010) identified that substance abuse has a major impact on the adaptability capacity and rehabilitation potential of individuals with physical disabilities.

Multidisciplinary Team Members Involved in Each Stage of Recovery

The roles and responsibilities of the health care professionals involved in the multidisciplinary team in each stage of recovery are clarified. The main roles of occupational therapists, including interventions provided and areas of occupations that are addressed in each stage of recovery, are emphasized. Other topics discussed include education provided to the patient and family members, time spent with patients, as well as the occupational therapy evaluation process.

Acute Care

The acute care process begins as soon as the patient is admitted to the hospital. The sooner the treatment process can begin, the better the patients are able to adapt to the changes and the more likely they will have positive rehabilitation outcomes. There are many different health care professionals involved in the acute care process that need to work together in order to give individuals with SCIs the best care possible. Each health care professional communicates and works with the patient on a daily basis to determine medical status. Due to the number of health care professionals involved in patient care during this phase of recovery, it is important that the occupational therapist collaborates with the other professionals and contributes to the interdisciplinary team approach (Robinson & Shotwell, 2011).

One of the main functions of the occupational therapist in the acute care setting is to prevent patients with a SCI from further complications, such as loss of function, range of motion (ROM), edema, etc. (Atkins, 2008; Hamby, 2011). Occupational therapists spend a great deal of time working on ROM to prevent deformities as well as edema management to prevent ulcers or pressure sores. ROM exercises are usually performed

while lying in bed; however, depending on level of injury, patients may also sit up to complete ROM exercises (Atkins, 2008). Occupational therapists assist with stabilizing vital signs during functional mobility to prepare the patient for discharge to another level of care.

Occupational therapists in the acute care setting are to address the patient's immediate needs, such as making them feel comfortable in bed (Atkins, 2008). Many patients with a SCI are not able to transfer their own body weight to change positions in bed, so occupational therapists assist with this task and provide education on proper transfer techniques and also provide other environmental controls. In order to provide comfort and appropriate spinal placement while lying in bed or while sitting in a wheelchair, occupational therapists may provide positioning devices, such as braces and wheelchair cushions (AOTA, 2012).

The occupational therapist does not usually assess performance in areas of occupation in the acute care setting due to the medical and physical restrictions. However, depending on level of function, activities of daily living (ADLs) may be addressed. Occupational therapists in an acute care setting typically evaluate safety with eating and swallowing, make dietary recommendations, and provide patient's with adaptive devices for eating (AOTA, 2012). Other ADLs may or may not be addressed during the acute care phase depending on level of function. It is important for occupational therapists to involve the patient in determining which ADLs are most meaningful and that need to be addressed before the patient transfers to the next level of care or returning home (Robinson & Shotwell, 2011).

The occupational therapist must complete an evaluation of the patient's skills and abilities before providing treatment. Although the occupational therapist working in the acute care setting primarily address the physical changes the patient is experiencing, they also need to address the psychological issues the patient and their family members are experiencing (Mondor, 1993). In order to detect substance abuse in early recovery, it is important to screen for substance abuse in the acute care setting.

Inpatient and Outpatient Rehabilitation

There are also many health care professionals involved in patient care in the inpatient and outpatient rehabilitation phases of recovery. In the inpatient rehabilitation setting, the team members that are involved consist of physical therapy, occupational therapy, speech therapy, therapeutic recreation, psychology, social work/case management, and nursing. Post-discharge services or outpatient rehabilitation services that individuals with SCIs generally are involved with include physical therapy, occupational therapy, speech therapy, therapeutic recreation, psychology, social work/case management, and nursing. For occupational therapy and physical therapy, the amount of time spent in therapy increases during post-discharge and outpatient rehabilitation services and the number of other disciplines that the individuals with SCIs may see often decreases based on the individuals specific needs (Whiteneck et al., 2011).

Although many health care professionals are caring for the patient with a SCI, the role of the occupational therapist in the inpatient rehabilitation setting is based on the level of injury and the severity of injury. Due to the fact that every SCI is different, each patient will have different needs and will require different levels of care. However, the

main focus of the occupational therapist in the inpatient rehabilitation phase of recovery most often consists of ADLs as well as strengthening and endurance (Foy et al., 2011).

Foy et al. (2011) conducted a study to determine the main areas that were addressed by occupational therapists in the inpatient rehabilitation phase of recovery, as well as the amount of time therapists spent providing different types of treatment, including both group and individual sessions. The results from the study indicated that occupational therapists spent the most time throughout their week providing strengthening and endurance interventions, followed by ADLs, ROM/stretching, education, and therapeutic activities. One of the reasons why strengthening and endurance were the main focus of therapy sessions is due to the fact that many patients with SCIs do not have the necessary strength required to complete basic ADLs. Therefore, strengthening and endurance training are usually completed both prior to and in conjunction with other treatment interventions, such as training in ADLs. Although strengthening and endurance were the main focus for individual and group sessions combined, occupational therapists spent the majority of their individual sessions with patients focusing on ADLs (Foy et al., 2011).

There are many ADLs that are addressed during the inpatient rehabilitation phase of recovery once the patient has the required strength and endurance to do so. According to Foy et al., (2011), occupational therapists spent the greatest amount of time addressing lower body dressing, followed by upper body dressing, bathing, and grooming. Other ADLs addressed include bladder management, bowel management, feeding/eating, toileting, clothing management, and hygiene. Other areas that are addressed in the inpatient rehabilitation stage of recovery include communication, balance, bed mobility,

skin protection, home management skills, splinting, and assistive technology training. It is the role of the occupational therapist to educate both the patient as well as family members on the use of adaptive devices, as many patients will initially require some sort of adaptive device in order to complete specific ADLs (Foy et al., 2011).

As with any other setting, an occupational therapist working in an outpatient setting must first complete an evaluation prior to implementing interventions. In an outpatient setting, the evaluation focuses on patient factors and performance skills in all areas of occupation, focusing on ADLs and instrumental activities of daily living (IADLs). Examples of ADLS and IADLs frequently addressed include home management, community skills, driving, leisure, work skills, social participation, and self-care activities. Other areas addressed in the outpatient setting include body structure/body function impairments with the use of therapeutic activities and exercise (Roberts & Evenson, 2009).

The literature does not address the role of occupational therapists addressing substance abuse in the inpatient/outpatient rehabilitation setting. Although the primary focus of an occupational therapist working with a patient with a SCI is to address the physical limitations, the psychological factors, such as substance abuse, still need to be considered, as they can affect the outcomes of rehabilitation and the overall quality of life of the patient. Occupational therapists may be more likely to address substance abuse in the inpatient/outpatient setting if it is detected in the acute care setting.

Home Health

Rehabilitation team members in the home health setting can help individuals with a SCI to reduce depression, anxiety, and self-neglecting behaviors by redirecting the patient's thoughts and behaviors. This can be done by helping the patients find meaningful occupations they wish to engage in once they return home. It is also important that health care professionals working in the home health setting help with problem solving skills and assist the patients to make good decisions and develop healthy coping skills. Patients may have a difficult time transitioning to their home environment with their newly acquired SCI and may need additional support. Patients may require assistance to find acceptable solutions that work in real life situations and may have more success during their adjustment periods with peer support. Although health care professionals working in the home health environment spend a majority of their time helping the patients' identify meaningful activities, develop coping skills, and helping with home modifications and adjustments, they also need to make sure they prevent further complications (Kirshblum, Priebe, Scelza, Chiodo, & Wuermser, 2007).

Occupational therapists working in a home health setting provide similar interventions as they would in an outpatient setting, but do so in the natural home environment of the patient (Hussey, Sabonis-Chafee, & O'Brien, 2007). Providing care in the patient's natural home environment provides an ideal opportunity to address ADLs and IADLs in an effective manner (Toto, 2006). The goal of home health occupational therapy is to help patients reach their maximum level of independence and improve their ability to function in their home environment. Since interventions are taking place in the home of the patient, it is likely that other caregivers will be involved, such as family

members or health care aides. It is important for the occupational therapist to provide education to these caregivers and aides on what needs to be done as well as how it needs to be done in order to increase independence and quality of life for the patient (Toto, 2006).

Areas most frequently addressed by occupational therapists working in home heath include environmental modifications, assistive technology, and occupational performance with ADLs and IADLs (Craig, 2012; Toto, 2006). Specific examples of interventions addressed by occupational therapists include medication management, prevention of pressure ulcers through adaptation of bed and chair positioning, and recommending changes in toileting routines to reduce incontinence (Toto, 2006). No research was found on addressing substance abuse in a home health setting.

Conclusion

Occupational therapists working in physical rehabilitation settings primarily address the physical aspects of an injury or illness. Minimal information or evidence was found related to screenings and interventions for substance abuse and SCIs. Occupational therapists need to be aware of substance abuse and screen each patient to determine the need for assessment and interventions related to substance abuse. Occupational therapists and other healthcare professionals need guidance and resources to provide holistic care addressing both substance abuse issues and physical limitations of individuals with SCIs.

Methodology is discussed in chapter III. This chapter involves a description of the process used and steps involved in designing the product. An overview of the product and the relationship it has to the literature as well as the practice of occupational therapy is also included.

CHAPTER III

METHODOLOGY

A comprehensive review of literature was completed using summative evaluations of research from PubMed, CINAHL, journal articles from the American Occupational Therapy Association (AOTA) and other peer-reviewed journals, as well as occupational therapy textbooks. Main topics researched for the literature review consisted of information regarding spinal cord injuries (SCIs) and substance abuse. Other topics included implications substance abuse has on SCI recovery as well as the psychological aspects that lead people with a SCI to abuse substances. The roles of the multidisciplinary team members as well as the specific occupational therapy roles throughout the stages of recovery were also researched. Based on the literature, problems were identified in relation to the recovery process in rehabilitation settings with individuals with spinal cord injuries (SCIs) and substance abuse.

The review of literature indicated that the male population is at the greatest risk for acquiring a SCI (DeLambo, Chandras, Homa & Chandras, 2010). Males are also at the greatest risk for injury-related substance use (Kolakowsky-Hayner, Gourley III, Kruetzer, Marwitz, Meade & Cifu, 2002; Tate, Forchheimer, Krause, Meade & Bombardier, 2004). Due to these findings, the male population is at the greatest risk for acquiring substance abuse behaviors following the onset of a SCI.

A main issue identified in reviewing the literature was the lack of substance abuse recognition within a rehabilitation setting. Due to lack of knowledge, training, or

experience with substance abuse, many health care professionals in a rehabilitation setting do not address substance abuse issues (Schmidt, Heinimann, & Semik, 1996). Mask (1993) reported that a majority of staff members recognized substance abuse, but did not provide any treatment. Instead, they referred patients with substance abuse to further mental health services or simply ignored the problem.

These issues identified in the literature review were used in the development of a resource manual for occupational therapists in a rehabilitation setting to address substance abuse issues when working with individuals' post-SCI. This manual includes information on screenings to detect substance abuse as well as occupational therapy assessments that are applicable for the population of individuals with substance abuse. The manual also provides occupational therapists with intervention strategies that are beneficial to use with individuals with SCIs to address substance abuse while providing physical rehabilitation. Lastly, the manual provides discharge and referral recommendations to occupational therapists for individuals with substance abuse.

The development of the product was guided by the Canadian Model of Occupational Performance (CMOP) occupational behavioral model. In order to determine which model to use to guide the product, a number of models were reviewed. The CMOP was chosen based on its client-centered and holistic approach.

A thorough internet search on substance abuse screenings was completed and a vast number of screening instruments that measured substance abuse were found. In order to decide which screenings to include, each instrument was reviewed to determine the best fit for the product and the profession of occupational therapy. The screenings that are

included in the manual are most applicable to occupational therapy, as multiple areas of occupation are addressed.

A review of current assessments in occupational therapy was completed to determine the best fit for inclusion in the manual. The Canadian Occupational Performance Measure (COPM) is the recommended occupational therapy assessment, as it is that assessment that fits with the CMOP. Based on the literature review, two additional occupational therapy assessments are included in the manual; these assessments are client centered and are congruent with the CMOP.

To determine appropriate intervention strategies, a variety of textbooks were used and an internet search was conducted on strategies used with patients with substance abuse. An occupational therapist who works at a chemical dependency facility was contacted regarding appropriate and successful interventions. A literature search regarding the occupational therapy discharge process and referral process was also completed.

CHAPTER IV

PRODUCTS/RESULTS

Substance abuse often goes untreated or unrecognized in patients receiving services in a rehabilitation setting. Many health care professionals who are employed in a rehabilitative setting have a lack of knowledge, training, and/or experience with substance abuse (Schmidt, Heinimann, & Semik, 1996). According to Mask (1993), many health care professionals recognize substance abuse in their patients, but fail to address the issue or provide treatment. Instead, they either ignore the problem or simply refer them to mental health services.

A manual was developed for occupational therapists working in a rehabilitation setting to utilize when working with patients with spinal cord injuries (SCIs), as there is a high correlation between individuals with SCIs and substance abuse (Kolakowsky-Hayner et al., 2002). Occupational therapists who are employed in a rehabilitation setting need to provide holistic care and address substance abuse issues simultaneously with interventions for physical needs. The development of this manual will provide occupational therapists with information and resources for addressing substance abuse with patients with SCIs. It is hypothesized that the manual will be used by many occupational therapists in order to improve outcomes for patients diagnosed with substance abuse and SCIs.

The Canadian Model of Occupational Performance (CMOP) was used to guide the manual. The Canadian Model of Occupational Performance (CMOP) is an occupational behavioral model that details how the interaction of the person, environment, and the occupation work together to ultimately effect occupational performance (Townsend & Polatajko, 2007). The CMOP was chosen for this manual based on the overall client-centeredness of the model. The model has an overarching focus of working with all aspects of the patient that attribute to the physical, cognitive, affective, and, spirituality components of the person. The spirituality component can help to focus on the psychosocial aspects of patients in physical rehabilitation settings, as the substance abuse issue may begin with feelings of depression, anxiety, and isolation after a SCI.

The manual provides information to occupational therapists regarding what substance abuse screening instruments are available for them to use. It is important to pair these substance abuse screenings with occupational therapy assessments in order to determine how one's substance abuse problem is impacting occupational performance. Suggested occupational therapy assessments consistent with the CMOP are included in the manual.

Each screening instrument and occupational therapy assessment is described in a narrative summary in terms of purpose, content, administration and benefits. There is also a table format for each screening instrument and assessment that provides further information regarding administration methods, number of items, how to score the assessments, training/administration requirements, and length of administration. Also

included in each table is how the screening instrument or assessment relates to occupational therapy as well as additional resources for further information.

The manual describes intervention strategies that are useful for occupational therapists to implement when working with individuals with substance abuse. Each intervention strategy is defined in terms of what each intervention technique entails and what strategies are most useful for the substance abuse population. For each intervention technique, occupational therapy approaches as well as enablement skills from the CMOP are described. The manual provides information regarding discharge planning and referral recommendations if further substance abuse services are needed. The complete product can be found in the appendix.

CHAPTER V

SUMMARY

There are a number of occupational therapists working in a rehabilitation setting who do not formally address substance abuse, rather the problem is ignored and the patients are referred to subsequent services (Mask, 1993; Schmidt, Heinimann, & Scemik, 1996). Patients with spinal cord injuries (SCIs) tend to have a higher risk for development or continuation of substance abuse (Kolakowsky-Hayner et al., 2002). Best practice indicates an increase in positive outcomes with screening and implementation of treatment for substance abuse early on in the rehabilitation of clients with SCI. Occupational therapists have the expertise needed to address both SCIs and substance abuse.

This manual was developed for occupational therapists in a rehabilitation setting to implement when addressing substance abuse in individuals' post-SCI. This manual includes information for occupational therapists regarding what screenings are available for them to use in order to detect substance abuse as well as occupational therapy assessments that are applicable for the population of individuals with substance abuse. The manual provides occupational therapists with intervention strategies that are beneficial to use with individuals with spinal cord injuries. Lastly, the manual provides discharge and referral recommendations to occupational therapists for individuals with substance abuse.

There is limited research related to addressing and treating substance abuse post-SCI. Although there are numerous articles which addressed the treatment of substance abuse in mental health facilities, none were aimed at treating the SCI population in a physical rehabilitation setting. The research regarding the lack of substance abuse treatment in a rehabilitation setting was from one specific study so the overall picture of treatments provided may be skewed. Evaluation of the usefulness, which involves a more comprehensive look into treating patients with substance abuse and SCIs, is needed. The manual was developed as a resource to guide occupational therapist in screening and incorporating substance abuse interventions early in a treatment program. There are additional resources in a table format that provides therapists with information for obtaining and using the screenings and assessments.

When trying to determine what intervention strategies to implement with the substance abuse population, the occupational therapist can refer to this manual to seek further instructions and education regarding appropriate intervention strategies and approaches along with discharge recommendations. It is hoped that the development of this manual will improve occupational therapists' knowledge, competence, and confidence in addressing substance abuse. Ultimately, it is hypothesized that the development of this manual will result in an increase in substance abuse detection and treatment in a rehabilitation setting.

It is recommended that further research be conducted on specific interventions to utilize with patients with substance abuse post-SCI. More research studies are needed in regards to the number of health care professionals, specifically occupational therapists, who address substance abuse in a rehabilitative setting. The goal is to pilot the manual

and based on user feedback revise the manual to enhance intervention techniques and strategies to implement with the substance abuse population. Research relating to outcomes of early interventions with substance abuse and SCIs is needed in the future. A pilot study is suggested in rehabilitation settings in which the outcomes of early intervention related to substance abuse post-SCIs are tracked.

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APPENDIX

Substance Abuse

Post-Spinal Cord Injury:

A Manual for Occupational Therapists

Janaye Hellman & Emilee Soper

Advised by: Janet S. Jedlicka, PhD, OTR/L

Table of Contents

Introduction

In the U.S. there are approximately 12,000 new cases of spinal cord injuries per year and the National Spinal Cord Injury Database identifies there are between 236,000 and 327,000 individuals living with spinal cord injuries in the U.S. (NSCISC, 2012). The estimated lifetime costs range from approximately $510,000-$3,160,000 depending on the age of the injury, SCI level, and amount of care needed (NSCISC, 2012). Other factors, such as substance abuse, may increase the overall medical cost (Hawkins & Heinemann, 1998). This manual was developed in order to assist occupational therapists in providing early intervention for addressing and treating substance abuse in patients post-spinal cord injury (SCI). Included in the manual is a description of the Canadian Model of Occupational Performance (CMOP), used to guide the project; a variety of substance abuse screenings; occupational therapy assessments; intervention strategies; and referral processes. These tools provide a basis for addressing substance abuse in a physical rehabilitation setting.

The risk of substance abuse is higher among individuals with disabilities, which can cause decreased ability to care for self, increased medical complications and overall decreased health status. According to Smedema and Ebener (2010) some of the major contributing factors to increased substance abuse risks include "pain and other medical problems that may lead to misuse of prescription medication and/or self-medication with non-prescription substances, societal enabling of persons with disabilities, a lack of timely identification of potential

problems, and a lack of accessible and appropriate prevention and treatment services" (p. 1312).

According to the CDC (2010) alcohol has been found to be involved in twenty-five percent of all SCIs. Bombardier and Rimmele (1998) reported pre-injury substance abuse tends to continue into post-injury substance abuse. Researchers stated that post-injury substance abuse can have significant effects on success and participation during rehabilitation. Smedema and Ebener (2010) stated "It may limit rehabilitation outcomes by contributing to functional limitations" (p. 1312). Self-destructive behaviors like substance abuse can negatively affect the positive impacts of rehabilitation and it can impact the individual making any gains during recovery.

Substance abuse often goes untreated or unrecognized in patients receiving services in a rehabilitation setting. Many health care professionals who are employed in a rehabilitative setting have a lack of knowledge, training, and/or experience with substance abuse (Schmidt, Heinimann, & Semik, 1996). According to Mask (1993), many health care professionals recognize substance abuse in their patients, but fail to address the issue or provide treatment. Instead, they either ignore the problem or simply refer them to mental health services. It is hoped that the resources provided on the various screenings, assessments, and intervention strategies will assist the occupational therapist to feel more comfortable and competent while addressing such issues.

Canadian Model of Occupational Performance

The Canadian Model of Occupational Performance (CMOP) details how the interaction of the person, the environment and the occupation work together to ultimately affect occupational performance (Townsend & Polatajko, 2007). The model describes the aspects that comprise the person as physical, cognitive, and affective, which are bound by the core of spirituality. The physical factors include strength, energy, and flexibility, range of motion (ROM), endurance, and pain. Cognition consists of thinking, reasoning, memory, perfection, communication, and motor planning. The cognitive components are important for learning and adapting to new situations and new physical challenges that may affect the individual's ability to perform their occupations. Individual motivation, self-concept, and relationships with others are also considered under the cognitive component. The spirituality component consists of self-identity, self-direction, and occupational choice, which all go together to assist the individual in finding meaning in religious faith and also meaning in everyday activities with occupations holding symbolic representations in which the individual creates (Townsend & Polatajko, 2007).

The environment consists of the contexts in which the individuals perform their occupations. There are three types of environments that are considered in the CMOP. The physical environment includes the home, classroom, work, or the outdoors; cultural environment includes religious, ethnic, and political factors; institutional environment includes the political and social systems that grant opportunities or provide barriers to the individual's occupations. The occupation

component includes the activities, such as self-care, productivity, and leisure, which are important for individuals in the post-injury phase. The combinations of all these components produce the occupational performance. The therapist's role is to assist the individual in being successful in their occupations; the importance of client-centeredness is stressed with the CMOP. How the individual views his/her ability to perform their occupations helps to determine how satisfied they are with their performance. The therapist has an important role in the goal setting process and helping the individual to determine their priorities as well as creating meaningful interventions for the individuals to engage in (Townsend & Polatajko, 2007).

The CMOP has two core concepts, enablement and occupation. Enablement refers to offering "effective, client-centered, occupation-based enablement for health, well-being, and justice" (Townsend & Polatajko, 2007, p. 92). Occupation is referred to as "an activity or set of activities that is performed with some consistency and regularity that brings structure, and is given value and meaning by individuals and a culture" (Townsend & Polatajko, 2007, p. 19). The CMOP also describes the term occupation as the result of the interaction between the person, occupation, and environment (Townsend & Polatajko, 2007).

The model utilizes enablement and occupations to ensure that client-centeredness is the focus by collaborating with the client and to encourage participation. There are 10 key enablement skills that are utilized by the CMOP. The skills are: adapt, advocate, coach, collaborate, consult, coordinate, design/build, educate, engage, and specialize. It would be unusual for an

occupational therapist to only use one skill as the skills will be overlapped in the treatment process in order to effectively meet the needs of the client. The enablement skills are dependent on the specific treatment setting or context, the client's needs and the interventions that are being carried out by the therapist and the client. Occupational therapists will begin to understand the appropriate uses for each of the skills with education and personal experience with various clients and intervention methods (Townsend & Polatajko, 2007). Occupations are the tasks that make enablement possible. According to the model's assumptions, occupation affects health and well-being as well as the ability to organize time in order to create habits and routines. Occupations contribute to the development of meaningful life activities and these meanings are often derived from the individual and the surrounding environment (Townsend & Polatajko, 2007). Occupational enablement can be used by anyone in any environment; when the ability to engage in various human occupations is interrupted or limited, then occupational therapy may be necessary. Enabling occupational engagement in all populations no matter their limited abilities, health conditions, and specific affecting environmental factors is core to the CMOP. Occupational therapy has broadened its perspective to include reducing the impact that the individuals' specific health condition may have on their desired activities and occupational participation (Townsend & Polatajko, 2007).

The CMOP was chosen for this manual based on the overall client-centeredness of the model. Occupational engagement and participation are central to meeting the client's needs through the use of the enablement skills outlined by

this model. The enablement skills can assist occupational therapists with addressing substance abuse in individuals with SCIs by ensuring the interventions being used are client-centered. The model has an overarching focus of working with all aspects of the client that attribute to the physical, cognitive, affective, and, spirituality components of the person. The spirituality component can help to focus on the psychosocial aspects of patients in physical rehabilitation settings as the substance abuse issue may begin with feelings of depression, anxiety, and isolation after a SCI.

Screenings and Assessments

There are a variety of screening tools for occupational therapists to utilize with patients post-SCI in order to determine if a substance abuse problem is occurring. It is important that occupational therapists complete these screenings on all patients with SCIs due to the high incidents of substance abuse both pre and post-injury. Many patients may not admit to the substance abuse or may not even realize it is a problem if the screenings or assessments are not completed.

There is not a substance abuse screening instrument made specifically for occupational therapists to administer. However, there are a number of screenings instruments that can be administered by a variety of health care professionals, including occupational therapists. The screening instruments presented in this section were selected as the screenings that are most suitable for occupational therapists to administer. The screenings instruments presented in this manual include the following: Alcohol Use Disorders Identification Test (AUDIT), Michigan Alcoholism Screening Test (MAST), Drug Use Screening Inventory-Revised (DUSI-R), CAGE Questionnaire, and the Drug Abuse Screening Test (DAST).

The screening tools for substance abuse allow the therapist to determine how severe the substance abuse problem is. The therapist can then administer occupational therapy assessments in order to get a better understanding of how the substance abuse is affecting engagement in meaningful occupations. The occupational therapy assessment that is recommended in this manual is the Canadian Occupational Performance Measure (COPM) (Law et al., 2005).

Other occupational therapy assessments that can be utilized with this population include the Occupational Self-Assessment (OSA) and the Occupational Performance History Interview-II (OPHI-II). The OSA is based on the Model of Human Occupation and is designed to assess an individual's self-perception of occupational competence, the importance of occupational functioning, and environmental adaptation (Baron, Kielhofner, Iyenger, Goldhammer, & Wolenski, 2002). This assessment would provide the therapist with information relating to the occupations the patient finds meaningful and will assist with identifying occupations the patient is having difficulties performing. This assessment fits with the client-centeredness of the CMOP, as it allows the patient to voice their concerns regarding occupational difficulties and also allows them to identify what occupations they find meaningful and perform successfully (Baron et al., 2002).

The OPHI-II rates the patient's occupational identity, occupational competence, and the impacts of occupational behavior settings. The OPHI-II provides a detailed description of the patient's life history and the impact the disability has had on the individual (Kielhofner et al., 1998). The life history might give the therapist a better idea of what factors caused the substance abuse problem so he or she is better able to address the issue and provide appropriate interventions. The therapist may also have a better understanding of how severe the substance abuse problem is and how it is affecting occupational performance. Obtaining a life history may make it easier to provide client-centered care, as the therapist will have a better idea of who the patient is. Understanding how one's life is impacted by the SCI and substance abuse problem may also help a therapist

provide appropriate interventions to promote enablement and occupational performance (Townsend & Polatajko, 2007).

Descriptions of each of the substance abuse screenings and occupation therapy assessments are discussed in the upcoming section of the manual. This section includes a table for each screening instrument and occupational therapy assessment. Each table briefly describes the screening instrument or occupational therapy assessment and includes other information including methods of administration, number of items, length of administration, administration requirements, and scoring. Also included in each table is how the areas assessed in the screening tools and assessments relate to client-centered engagement in occupations. The recommendation section focuses on the need for further assessments or interventions based on the results of the substance abuse screening tools and the referral of patients to other health care professionals.

Alcohol Use Disorders Identification Test

The Alcohol Use Disorders Identification Test (AUDIT) is a ten item screening tool for substance abuse (Allen, Litten, Fertig, & Babor, 1997). The AUDIT can be administered to patients in a variety of methods including orally, written, or via a computer. This assessment is fairly quick to administer, taking only a few minutes. The AUDIT focuses on identification of hazardous drinking as well as quantity, frequency, and intensity of drinking. The AUDIT focuses on recent history within the past year, rather than long-term history, which makes the substance abuse more applicable to the SCI circumstances (Allen, Litten, Fertig, & Babor, 1997).

The AUDIT has many benefits for occupational therapists to utilize with patients who may be at risk for substance abuse (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001). The AUDIT is designed for international use; it is suitable for a variety of different cultures and nationalities. Individuals who are not able to read or write may wish to complete the AUDIT orally, whereas those who do not have the ability to communicate may wish to complete the AUDIT via paper and pencil. The pencil and paper self-questionnaire requires less time to complete and is easier to administer. If a therapist completes the AUDIT via interview, further explanation and clarification can be provided for ambiguous questions. Patients are also more likely to expand on their answers when verbalizing them rather than writing them (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001).

Alcohol Use Disorders Identification Test (AUDIT)	
About the Audit	• Developed by the World Health Organization • Identifies when alcohol consumption has become detrimental to one's health • Not designed to diagnose substance use disorders according to the diagnostic criteria • Widely used screening tool used by many health care professionals • Does not screen for drugs other than alcohol
Methods of Administration	• Pencil and paper self-administration (self-report) • Interview (oral administration) • Electronically via computer
Number of Items	• Ten items • Three subscales o Hazardous Alcohol Use o Dependence Symptoms o Harmful Alcohol Use
Length of Administration	• Approximately two minutes
Administration Requirements	• Must be administered by a health care professional • Training is required for administration
Scoring	• Length: Approximately one minute • Scored by hand • Normed on heavy drinkers and alcoholics • A brochure is available to assist with the scoring process
Application to Occupational Therapy	• Areas measured by the AUDIT and relation to occupational therapy: o Frequency of alcoholic drinks ▪ If one is consuming alcoholic beverages too frequently, they are limiting the amount of time they spend engaging in meaningful occupations. o Failure to do what is normally expected ▪ An occupational therapist is also able to

	determine which roles are not being fulfilled due to drinking behaviors. These roles may also interfere with certain areas of occupation, as many roles associate with certain areas of occupation o Morning drinking habits/routines ▪ Consuming alcoholic beverages early in the morning can ultimately lead to an unhealthy routine. Occupational therapists can aid in the development of healthy routines and habits. o Feelings of remorse or guilt ▪ Feelings of remorse or guilt may affect mental functions, such as coping and behavioral regulation, emotional regulation, and self-esteem. Occupational therapist can help one cope with their drinking behaviors in a healthy manner in order to avoid negative emotions that may lead to a lowered self-esteem and/or depression. o Destructive behaviors. ▪ Consumption of alcoholic beverages may lead to a variety of injuries and pose as risk factors to maintaining health management and maintenance. Occupational therapists can help one develop healthy alternative routines and activities to engage in other than drinking in order to improve one's ability to maintain healthy management and maintenance.
Resources	• The AUDIT screening instrument along with the manual can be downloaded as a PDF format from the World Health Organization website: http://www.who.int/substance_abuse/publications/alcohol/en/index/html • The APA reference format for the AUDIT manual is as follows: o Babor, T.F. & Higgins Biddle, J. (2002) AUDIT: The Alcohol Use Disorders Identification Test: Guidelines for use in Primary Care, 2nd edition. World Health

	Organization: Geneva, Switzerland.

(American Occupational Therapy Association [AOTA], 2008; Babor & Higgins Biddle, 2002; Young, Nakashian, Yeh, & Amatetti, 2006)

Michigan Alcoholism Screening Test

The Michigan Alcoholism Screening Test (MAST) is a reliable screening tool used for assessing substance abuse. The MAST consists of twenty-five items and takes approximately ten to fifteen minutes to administer. The MAST can be given orally or in writing (Young, Nakashian, Yeh, & Amatetti, 2006). The items on the MAST relate to a variety of different issues regarding alcohol abuse and relate to the impact alcohol consumption has on relationships, roles, and other occupations. It is important to note that the MAST only assesses alcohol consumption, and therefore should be paired with other assessments or screening tools to assess other drug consumption (Selzer, Vinokur, & Rooijen, 1975).

There are a variety of shorter versions of the MAST, which take less time to complete and can be utilized when time is limited. One of the most common brief versions of the MAST is the SMAST, The Short Michigan Alcoholism Screening Test. The SMAST contains thirteen of the original twenty-five items from the MAST, is easier and faster to score, and has proven to be just as effective as the MAST (Selzer, Vinokur, & Rooijen, 1975). Other versions of the MAST include the Brief MAST, which consists of ten items, the Malmo Modification of the MAST (Mm-MAST), which consists of nine items, and the MAST-G, a geriatric. It is important to keep in mind that although these shorter versions of the MAST take less time to administer, they are likely not able to obtain as much information as the MAST (Young, Nakashian, Yeh, & Amatetti, 2006).

Michigan Alcoholism Screening Test (MAST)	
About the MAST	• The MAST was developed in 1971 • Although it is lengthier than most screening instruments, it is still considered a screening tool • The MAST only evaluates alcohol consumption and should therefore be paired with a screening or assessment which assesses other drugs • Identifies alcoholism, although it is not based on diagnostic criteria • There are a number of shorter versions of the MAST as well as a geriatric version
Methods of Administration	• Pencil and paper self-administration (self-report) • Interview (oral administration)
Number of Items	• Twenty-five items • No subscales
Length of Administration	• Ten to fifteen minutes
Administration Requirements	• Must be administered by a health care professional • No additional training is required
Scoring	• Length: Approximately 10 minutes • Scored by hand • Computer scoring and interpretation is not available • Norms are available to assist with the scoring process
Application to Occupational Therapy	• Areas measured by the MAST and relation to occupational therapy: o The MAST identifies how one's drinking behaviors impact the relationships with others ▪ Occupational therapists can help one improve their relationships with friends and family by providing education on relationship and communication skills as well as helping one to develop a healthier routine with meaningful family activities.

	○ Difficulties at work or losing a job due to drinking is assessed ▪ Occupational therapists can help one develop healthier habits and routines in order to improve their job performance before getting into trouble or losing job. If alcoholic consumption has already lead to a job loss, an occupational therapist can help one explore new employment opportunities based on interests and help with the application and interview process. ○ The MAST determines if one has neglected obligations for two or more days in a row ▪ If drinking behaviors are causing one to neglect their obligations, it is likely that they are also neglecting their roles, as many obligations fall under a certain role. Occupational therapists can help individuals develop healthier routines, which will ultimately help with role performance and engagement in areas of occupation. ○ Destructive behaviors to one's health are identified ▪ Occupational therapists can help one develop healthy alternative routines and activities to engage in other than drinking in order to improve one's ability to maintain health management and maintenance. ○ The MAST identifies if one feels the urge to drink before the noon hour ▪ An occupational therapist can help one develop a healthier morning routine to avoid the need to drink in order to carry on with their day.
Resources	• A free version of the MAST can be found by visiting the following website: ○ http://www.outcometracker.org/library/MAST.pdf • The following article contains more information regarding the MAST:

	○ Selzer, M. L., Vinokur, A., & Rooijen, L. V. (1975). A self-administered short michigan alcoholism screening test (SMAST). *Journal of Studies on Alcohol, 36*(1), 117-126. • There is a one-time charge of $40.00 for a copy of the MAST with a scoring key. In order to get this copy, a check should be sent to the following address: Melvin Selzer, MD 6967 Paseo Laredo La Jolla, CA 92037-6425

(AOTA 2008; Selzer, Vinokur, & Rooijen, 1975; Young, Nakashian, Yeh, & Amatetti, 2006)

Drug Use Screening Inventory-Revised

The Drug Use Screening Inventory-Revised (DUSI-R) is screening tool that can be used to detect substance abuse in patients with a SCI. The DUSI-R measures severity of problems in ten different areas: substance abuse, psychiatric disorders, behavior problems, school adjustment, health status, work adjustment, peer relations, social competency, family adjustment, and leisure/recreation (eCenter Research Inc., 2012; Young, Nakashian, Yeh, & Amatetti, 2006). This screening tool provides occupational therapists with information regarding the impact substance abuse has on occupational function. This full screening tool consists of 159 items and takes approximately 20 minutes to administer. There are forms available for both adolescents and adults. The DUSI-R can be completed electronically via computer or a paper and pencil format. There are multiple time frame options available, including lifetime, past year, past month, and past week (eCenter Research Inc., 2012).

The DUSI-R is lengthier and takes longer to complete than most other screening instruments. The DUSI-R assesses both alcohol and drug abuse. Due to these factors, the DUSI-R provides the occupational therapist with a better understanding of the individual and how substance abuse is affecting their everyday life. The DUSI-R is a universal instrument, as it is available in fifteen languages (eCenter Research Inc., 2012; Young, Nakashian, Yeh, & Amatetti, 2006).

The DUSI-R can be used with populations to determine program needs and track interventions and outcomes that individuals are receiving. This allows health

care professionals to determine what specific interventions certain individuals are receiving as well as what interventions are successful for each patient. Health care professionals are able to track progress over time and determine if the interventions patients are receiving are having a positive impact and helping them reach their goals (Dr. S. Weatherbee, personal communication, January 18, 2013).

Drug Use Screening Inventory-Revised (DUSI-R)	
About the DUSI-R	• The DUSI-R is a screening tool that evaluates severity of problems in ten different areas: substance use, psychiatric disorders, behavioral problems, school adjustment, health status, work adjustment, peer relations, social competency, family adjustment, and leisure/recreation. • Available in both adult and adolescent forms • Includes predicative scales for six mental health disorders o ADHD, Anxiety Disorder, Depression Disorder, Conduct Disorder, Antisocial Personality Disorder, Substance Use Disorder • Predicative of adverse outcomes o Driving under the influence, selling/dealing drugs, giving someone drugs for sexual intercourse, head injury, treatment for injury after a fight, sexually transmitted disease, car accident with alcohol or drugs in system • Predicative of violence proneness o Assault, assault with a deadly weapon, battery of a police officer, display of a weapon in a rude manner, violent outburst in school, violence toward a teacher, fire setting
Methods of Administration	• Electronically via computer o The patient can complete the screening themselves or they can have the health care professional complete it for them • Paper format (self-report) o Automated scoring and the predictive mental health, adverse outcomes, and violence proneness scare are not available • Audio format
Number of Items	• Consists of one-hundred and fifty-nine items • Evaluates ten different areas • Contains over thirty subscales for specific problem identification
Length of Administration	• Length of administration depends on the form administered

	○ Quick screen: three minutes ○ Short assessment: eight minutes ○ Full assessment: twenty minutes
Administration Requirements	• The DUSI-R must be administered by a health care professional • No additional training is required to administer this screening instrument
Scoring	• Norms are available • Automated online scoring • The paper format takes approximately 5-10 minutes to score and does not contain automated scoring and the predictive mental health, adverse outcomes, and violence proneness scare are not available • Scores reflect severity ranging from 0 – 100% • An overall problem density score exceeding 15% severity is considered to be clinically significant
Application to Occupational Therapy	• Areas measured by the DUSI-R and application to occupational therapy: ○ Severity of problems in the area of work adjustment ▪ Occupational therapists can help one develop healthier habits and routines in order to improve their job performance before getting into trouble or losing job. If substance abuse has already lead to a job loss, an occupational therapist can help one explore new employment opportunities based on interests and help with the interview an application process. ○ Difficulties with school adjustment and performance ▪ An occupational therapist can help students develop healthier routines in order to avoid getting behind in class and can help develop study habits. If needed, occupational therapists can also help with modifying or adapting the classroom environment to aid in the learning process.

	○ Impact substance abuse has on one's health status ▪ Occupational therapists can help one develop healthy alternative routines and activities to engage in other than substance use in order to improve one's ability to maintain health management and maintenance. ○ The impact on peer and family relations and social competency ▪ The occupational therapist can then help one improve their relationships with friends and family by providing education on relationship and communication skills as well as helping one develop a healthier routine with meaningful family activities. ○ Effect on leisure and recreation activities ▪ Occupational therapists can aid in the development of a healthy balance of leisure activities and can help individuals identify meaningful activities to fulfill their time.
Resources	• More information can be obtained about the DUSI-R from the following websites: ○ http://www.youhealthcheck.org ○ http://www.yourhealthcheck.org/organization/dusi • There are many publications regarding the DUSI-R. Below is a list of a few publications. ○ Tarter, R. & Hegedus, A.M. (1991). The Drug Use Screening Inventory: Its application in the evaluation and treatment of alcohol and drug abuse. *Alcohol Health and Research World, 15*, 65-75. ○ Tarter, R., & Kirisci, L. (1997). The Drug Use Screening Inventory for Adults: Psychometric Structure and Discriminative Sensitivity. *American Journal of Drug and Alcohol Abuse, 23*, 207-219. ○ Tarter, R., & Kirisci, L. (2001). Validity of the Drug Use Screening Inventory for predicting DSM-III-R substance use disorder. *Journal of*

	Child and Adolescent Substance Abuse, 10, 45-53. o Tarter, R., Laird, S., Bukstein, O., & Kaminer, Y. (1992). Validation of the adolescent Drug Use Screening Inventory: Preliminary Findings. *Psychology of Addictive Behaviors, 6,* 233-236. • The DUSI-R is protected by copyright. For more information or license to use the DUSI-R please contact Dr. Steve Weatherbee, steve@ecenterresearch.com, eCenter Research Inc.

(AOTA, 2008; Dr. S. Weatherbee, personal communication, January 18, 2013; eCenter Research Inc., 2012; Young, Nakashian, Yeh, & Amatetti, 2006)

CAGE Questionnaire

The CAGE Questionnaire is a brief questionnaire consisting of four questions. The term "CAGE" is derived from key aspects of the questions: cut down, annoyed, guilty, and eye-opener. The CAGE does not ask questions regarding quantity, frequency, or drinking patterns. The CAGE focuses on the behavioral effects of one's drinking pattern (O'Brien, 2008).

Similar to the AUDIT and the MAST, the CAGE only assesses alcohol abuse. However, there is an adapted form of the CAGE, the CAGE-AID, which identifies both alcohol and other drug abuse. The questions on the CAGE-AID are the same as the CAGE but the CAGE-AID also includes drug abuse behaviors. Scoring is the same for both screening instruments (Brown & Rounds, 1995).

Due to the simple mnemonic, the CAGE questions are easy to remember for most health care professionals (O'Brien, 2008). Therefore, if an occupational therapist does not have the questionnaire in front of him or her, they are still able to administer the questionnaire. However, if the CAGE is administered without the questionnaire, it is important to write down the patient's responses in order to complete the scoring. Due to the brevity, the ease of administration, and the fact that no training is required, the CAGE can be administered in a variety of health care settings, which makes it a widely used screening tool among health care professionals (O'Brien, 2008).

The CAGE can be administered in one of two ways, orally or self-administration via paper and pencil. This allows patients to pick their method of administration depending on their skills, abilities, and needs. The CAGE is easy to

complete for patients. It is not only an easy and quick screening for occupational therapists to administer, it is also quick and easy to read and understand for patients completing the CAGE (Young, Nakashian, Yeh, & Amatetti, 2006).

The CAGE Questionnaire	
About the CAGE	• The CAGE Questionnaire is considered a screening instrument • The CAGE Questionnaire consists of only four items, which are "yes" or "no" questions • The term "CAGE" is derived from key aspects of the questions: o Cut down o Annoyed o Guilty o Eye-opener • This questionnaire does not ask questions regarding quantity, frequency, or drinking patterns • The CAGE only assesses alcohol consumption • There is an adapted form of the CAGE, the CAGE-AID, which assesses both alcohol consumption as well as other illicit drug consumption
Methods of Administration	• Pencil and paper self-administration (self-report) • Interview (oral administration)
Number of Items	• Includes four items
Length of Administration	• Takes less than one minute to complete
Administration Requirements	• Must be administered by a health care professional • No additional training is required to administer the CAGE Questionnaire
Scoring	• Scoring is completed in less than a minute • Scoring can be completed simultaneously while administering the questionnaire • All "no" answers are given a zero and all "yes" answers are given a score of one • Higher scores are indicative of substance abuse • A score of two or higher indicate further assessment • Norms are available
Application to Occupational	• Areas measured by the CAGE and CAGE-AID Questionnaires and relation to occupational

Therapy	therapy: o Feeling "bad" or guilty about drug usage ▪ Feelings of remorse or guilt may affect mental functions, such as coping and behavioral regulation, emotional regulation, and self-esteem. Many may lack the necessary skills needed to deal with the guilt and remorse associated with their substance abuse behaviors, which may ultimately cause a lowered self-esteem and/or depression. o Criticism from others ▪ Being criticized of substance abuse may also lead to further feelings of guilt, depression, and a lower self-esteem. Occupational therapists can help one cope with their substance abuse behaviors in a healthy manner in order to avoid negative emotions that may lead to a lowered self-esteem and/or depression. o Engagement in substance abuse in the morning ▪ If one continuously feels the need to engage in substance use when waking up in the morning, this could lead to an unhealthy routine. An occupational therapist can help one develop a healthier morning routine in order to avoid the need to use substances in order to carry on with their day. Engaging in substance use in the morning may also impact one's ability to carry out their roles and perform desired occupations.
Resources	• The CAGE and CAGE-AID Questionnaires can be downloaded as PDF formats from the following websites: o http://www.partnersagaintpain.com/printouts/A7012DA4.pdf o http://www.agencymeddirectors.wa.gov/Files.cageform.pdf o http://www.mhn.com/static/pdfs/CAGE-AID.pdf o http://www.hopkinsmedicine.org/john_hopkins_healthcare/downloads/CAGE%20Substance

	%20Screening%20Tool.pdf o http://www.integration.samhsa.gov/images/res/CAGEAID.pdf o http://www.integration.samhsa.gov/clinical-practice/sbirt/CAGE_questionaire.pdf • Other resources regarding information about the CAGE include the following: o O'Brien, C. P. (2008). The CAGE questionnaire for detection of alcoholism: A remarkably useful but simply tool. *Journal of the American Medical Association, 300*(17), 2054-2056. o Brown R. L. & Rounds L.A. (1995). Conjoint screening questionnaires for alcohol and other drug abuse: criterion validity in a primary care practice. *Wisconsin Medical Journal*, 94 (3), 135 –140.

(AOTA, 2008; Brown & Rounds, 1995; O'Brien, 2008; Young, Nakashian, Yeh, & Amatetti, 2006)

Drug Abuse Screening Test

The Drug Abuse Screening Test (DAST) is a screening instrument that can be used by occupational therapists to identify substance abuse. The DAST only assesses drug abuse, including over-the-counter, prescription, and illicit drugs, and therefore should be paired with screenings that assess alcohol abuse in order to get the full picture of substance abuse (Young, Nakashian, Yeh, & Amatetti, 2006). The original form of the DAST contains 28 items. However, there have been modifications to the original form to develop the 20-item version (DAST-20). Based on research, the DAST-20 is the only available screening, as it has replaced all other forms (Young, Nakashian, Yeh, & Amatetti, 2006).

The DAST-20 is quick and easy to administer, taking approximately five minutes. It does not involve additional training to administer (Young, Nakashian, Yeh, & Amatetti, 2006). Due to the short administration, the DAST-20 can easily be administered between therapy appointments or at the beginning of a therapy session. If the occupational therapist chooses to administer the screening at the beginning of a therapy session, it is brief enough to still allow appropriate time for therapy intervention. Benefits for the patient completing the DAST-20 include the ease of completion, as this screening instrument is composed of only "yes" or "no" questions. The DAST-20 can also be completed in a variety of methods, including a self-report via paper-and-pencil questionnaire or orally via interview (Young, Nakashian, Yeh, & Amatetti, 2006). These methods of administration allow the patient to determine which method they would like to complete based on their needs, skills, and abilities. For example, individuals who have vision

impairments or difficulties with reading or writing skills, they may wish to complete the screening via interview. On the other hand, individuals who have a speech or hearing impairment may wish to complete the screening via self-administration.

Drug Abuse Screening Test-20 (DAST-20)	
About the DAST	• The DAST-20 is composed of twenty of the original twenty-eight items from the original DAST • Items consist of "yes" or "no" questions • The DAST-20 assesses drug usage during the last twelve months • This screening instrument identifies drug abuse, including over-the-counter, prescription, and other illicit drugs • Alcohol abuse is not assessed by the DAST-20
Methods of Administration	• Pencil and paper self-administration (self-report) • Interview (oral administration)
Number of Items	• Twenty items • No subscales
Length of Administration	• The DAST-20 takes approximately 5 minutes to administer
Administration Requirements	• Must be administered by a health care professional • Training is not required to administered the DAST as it is fairly easy to learn

Scoring	• Length: Approximately two minutes
	• Scored by hand
	• The higher the score, the more severe the drug addiction
	• Each "yes" answer receives one point
	  o Exception: Questions 4 & 5
	  ▪ One point for a "no" response
	• Norms are available

Relation to Occupational Therapy	• Areas measured by the DAST-20 and relation to occupational therapy:
	  o Feeling bad or guilty about substance abuse.
	  ▪ Feelings or remorse or guilt may affect mental functions, such as coping and behavioral regulation, emotional regulation, and self-esteem. Occupational therapists can help one cope with their substance abuse

	behaviors in a healthy manner in order to avoid negative emotions that may lead to a lowered self-esteem and/or depression. o Neglecting friends or family members or losing relationships ▪ The occupational therapist can then help one improve their relationships with friends and family by providing education on relationship and communication skills as well as helping one develop a healthier routine with meaningful family activities. o Withdrawal symptoms and other medical problems affecting one's health status ▪ Occupational therapists can help one develop healthy alternative routines and activities to engage in other than substance abuse in order to improve one's ability to maintain health management and maintenance. o Trouble at work or losing a job ▪ Occupational therapists can help one develop healthier habits and routines in order to improve their job performance before getting into trouble or losing job. If substance abuse has already lead to a job loss, an occupational therapist can help one explore new opportunities based on interests and help with the interview and application process.
Resources	• The DAST is available for purchase from the Centre for Addiction and Mental Health's online store: o http://store.camh.ca/product.php?productid=306&cat=0&page=1 • There is also a free downloadable PDF available of the DAST-20 by visiting the Centre for Addiction and Mental Health's website: o http://knowledgex/camh.net/amhspecialists/specialized_treatment/relapse_prevention/srp/Documents/srp_dast.pdf

(AOTA, 2008; Young, Nakashian, Yeh, & Amatetti, 2006)

Recommendations for Further Assessments

Although many of the screening instruments mentioned in the previous section have many benefits and may provide useful information regarding severity of substance abuse, it is important to keep in mind that they are just screening tools and must be used appropriately. It is important to use the information gathered from the screening instruments to determine what other screening instruments or further assessments need to be administered. It is a good idea to administer occupational therapy assessments after administration of the screening instruments to determine how substance abuse is affecting one's daily life and his or her ability to participate in meaningful occupations.

Based on the information from these screening tools, further occupational therapy assessments, such as the COPM, OSA, and OPHI-II, may be needed in order to obtain a more holistic view of the patient and how their substance abuse is affecting their daily lives and their ability to participate in meaningful occupations. Results from the screening instruments and occupational therapy assessments should be used to develop client-centered, meaningful goals in order to provide occupation-based interventions to meet the patient's needs. If interventions are not successful or when the patient is ready to discharge, community resources should be provided in order to continue substance abuse treatment.

Canadian Occupational Performance Measure

The Canadian Occupational Performance Measure (COPM) is an assessment that is based on the Canadian Model of Occupational Performance (CMOP) (Law et al., 2005). Similar to the CMOP, the COPM emphasizes client-centered care, as it fosters communication and collaboration between the patient and therapist. The COPM is client-centered in regards to identifying roles and role expectations as well as considering the impact the environment has on occupational performance. This assessment is designed to be used with a variety of populations and diagnoses and can be used with individuals as young as seven years of age. The COPM aims to detect change over time in a patient's self-perception of occupational performance (Law et al., 2005).

The COPM is a semi-structured interview that is divided into three different areas: self-care, productivity, and leisure (Law et al., 2005). With each of these areas, the patient identifies what occupations he or she normally performs as well as satisfaction with performance and problems with occupational performance. The patient reports importance for each occupation and then organizes these occupations into the five most important occupational problems to be addressed in therapy. For these five problem areas, the patient identifies their perception and satisfaction with performance (Law et al., 2005).

The COPM requires the patient to identify his or her own areas of difficulty. Some patients might not be able to identify their areas of difficult due to a variety of factors, such as intellectual ability, age, diagnosis, lack of insight, etc. When this is the case, caregivers are able to report for the patient. Although

caregiver report is beneficial when patients cannot identify problem areas themselves, caregivers' perceptions may not be the same as the perceptions of the patients (Law et al., 2005).

When administering the COPM, there is a process to follow which includes five steps (Law et al., 2005). The first step involves identifying the problem in which the therapist interviews the patient and/or caregivers to identify problem areas with occupational performance. The patient identifies the occupations he or she wants to, needs to, or is expected to perform. For each of these areas, the patient also states whether he or she can perform, does perform, and is satisfied with performance. Problem areas are those occupations identified by the patient that he or she needs to perform, but is not satisfied with performance (Law et al., 2005).

After identifying the problem, the next step involves weighing the problem. For each problem area identified, the patient rates the importance of each occupation on a one to ten scale, with one being not important and ten being extremely important. The third step requires the therapist to score the patients importance ratings and determine the five most problematic and urgent areas to address. The patient then rates these five areas in regards to his or her ability to perform activities and satisfaction with performance using the same one to ten rating scale. The ratings of ability and satisfaction for these are then multiplied by the importance ratings to determine baseline scores (Law et al., 2005).

Step four, re-assessment, occurs after the intervention process. In the re-assessment phase, the patient and/or caregiver re-identifies his or her performance

and satisfaction with activities, which are then multiplied with the original importance ratings, summed and divided to calculate the change over time. This allows the patient and therapist to track progress towards goals. The last step of the process is follow-up in which the therapist plans for treatment continuation, follow-up services, or discharge (Law et al., 2005).

Canadian Occupational Performance Measure (COPM)	

About the COPM	• The COPM is based on the CMOP
	• Emphasizes client-centered care
	  o Fosters collaboration and communication between patient and therapist
	• Can be applied with a wide range of ages, diagnoses, and populations
	• Detects change over time in a patient's self-perception of occupational performance
	• Semi-structured interview that is divided into three different areas
	  o Self-care
	  o Productivity
	  o Leisure
	• Measures satisfaction, importance, and ability to perform occupations

Methods of Administration	• Semi-structured interview
Number of Items	• Not applicable
Length of Administration	• Approximately 30-40 minutes
Administration Requirements	• Must be administered by an occupational therapist • No additional training is required

Scoring	• Patients rate items on importance on a 10-point scale
	  o 1 is not important
	  o 10 is extremely important
	• Patients rate five problematic areas on the same 10-point scale on ability to perform and satisfaction
	  o These scores are multiplied by the importance ratings to determine baseline scores
	• Scores from initial assessment can be compared with reassessment scores
	  o A 2-point change of score is considered clinically significant

Application to	• Areas measured by the COPM and relation to

Occupational Therapy	occupational therapy: o The COPM assesses satisfaction, importance, and ability to perform activities in the areas of self-care, productivity, and leisure ▪ Self-care • Self-care involves personal care, functional mobility, and community management, which fall under the categories of activities of daily living (ADLs) and instrumental activities of daily living (IADLs) ▪ Productivity • Activities that fall under the productivity category on the COPM involve paid/unpaid work, household management, and play/school. These are all areas of occupations that occupational therapists are trained to address. ▪ Leisure • Activities that full under the leisure category on the COPM include quiet recreation, active recreation, and socialization. Leisure is an area of occupation that is within the scope of practice for occupational therapy.
Resources	• A COPM manual and kit, which includes 100 measurement forms and 3 rating scales, can be purchased for $52.45 from the following website: o https://www.caot.ca/business/source/orders/index.cfm?section=unknown&task=1&CATEGORY=ASSESS&DESCRIPTION=Assessments&CFTOKEN=42539933&continue=1&SEARCH_TYPE=find • The APA citation for the COPM manual is as follows: o Law, M., Baptiste, S., Carswell, A., McColl, M. A., Polatajko, H., & Pollock, N. (2005). *Canadian Occupational Performance Measure* (4th ed.). Ottawa, Canada: CAOT Publications ACE. • More information pertaining to the COPM can be found in the following publications:

	○ Law et al. (1990). The Canadian occupational performance measure: An outcome measure for occupational therapy. *The Canadian Journal of Occupational Therapy, 57*(2), 82-87. ○ McColl, M. A., Paterson, M., Davies, D., Doubt, L., & Law, M. (2000). Validity and community utility of the Canadian occupational performance measure. *The Canadian Journal of Occupational Therapy, 67*(1), 22-30.

(Law et al., 2005)

Occupational Self-Assessment

The Occupational Self-Assessment (OSA) is an outcome measure based on the Model of Human Occupation (Baron, Kielhofner, Iyenger, Goldhammer, & Wolenski, 2002). It is designed to capture the patient's perceptions on their occupational competence, importance of occupations, and the impact the environment has on occupational performance. The OSA is considered a client-centered assessment as it allows the patient to voice their own occupational concerns and occupations which are meaningful. The OSA is designed to be administered as part of the initial evaluation process, but should also be used at a later date to determine change in occupational competence and importance by administering the follow-up form. This allows the therapist to determine if the patient was successful at reaching their goals (Baron et al., 2002).

There are two sections of the OSA, which include the "Myself" and "My Environment" sections (Baron, et al., 2002). These sections are usually completed together, but they can be completed alone or at separate times. The "Myself" section involves the patient to respond to a variety of different occupations in regards to occupational functioning. For each item, the patient reports how well they are able to perform each occupation. Responses include the following: I have a lot of problem doing this; I have some difficulty doing this; I do this well; I do this extremely well. The patient then rates the importance he or she places on each item. Responses for importance include the following: this is not so important to me; this is important to me; this is more important to me; this is most important to me. After the patient has completed rating occupational

function and importance, he or she picks up to four of those tasks that they would like to change. These areas then become the focus of occupational therapy interventions (Baron et al., 2002).

After the patient has completed the "Myself" section of the OSA, they then complete the "My Environment" section, which contains a number of environmental factors (Baron et al., 2002). For each of these factors, the patient provides similar responses in regards to functioning and importance. The patient first reports environmental impact on performance by choosing one of the following responses: there is a lot of problem; there is some problem; this is good; this is extremely good. The patient then reports how important each aspect of the environment is to them using the same responses as the "Myself" section. After the patient finishes rating the environmental factors, he or she chooses up to two things about their environment they would like to change, which also become the focus of the occupational therapy process (Baron et al., 2002).

After the OSA has been completed by the patient, goals are then formulated based on the areas the patient identified as priorities for change. The patient can either establish goals on their own or the therapist and patient together can collaborate and establish goals together. For each goal, a plan of action is also established in regards to what the patient needs and wants to do in order to reach each goal. The therapist uses this information when planning appropriate interventions to meet the patient's needs (Baron et al., 2002).

Occupational Self-Assessment (OSA)	
About the OSA	• The OSA is an outcome measure based on the Model of Human Occupation • It is designed to capture the patient's perceptions on their occupational competence, importance of occupations, and the impact the environment has on occupational performance • There are two sections of the OSA: o Myself o My Environment • The OSA allows the patient to prioritize occupations and aspects of their environment they would like to change o Based on these priorities, the patient and therapist develop goals and plans of action
Methods of Administration	• Paper and pencil self-report format
Number of Items	• The "Myself" section contains 21 items • The "My Environment" section contains 8 items
Length of Administration	• Not applicable
Administration Requirements	• Must be administered by an occupational therapist • No additional training is required
Scoring	• Items are ranked on a 4-point Likert scale o Myself ▪ I have a lot of problem doing this (1) ▪ I have some difficulty doing this (2) ▪ I do this well (3) ▪ I do this extremely well (4) o My Environment ▪ There is a lot of problem (1) ▪ There is some problem (2) ▪ This is good (3) ▪ This is extremely good (4) o Importance for both sections are rated the same ▪ This is not important to me (1)

	▪ This is important to me (2) ▪ This is more important to me (3) ▪ This is most important to me (4) • The focus of interventions should be on the occupations and environmental factors that have a low score which have a high score for importance. This indicates that the occupations and environmental factors that are problematic are also the most important to the patient.
Application to Occupational Therapy	• Areas measured by the OSA and relation to occupational therapy: o The patient identifies what occupations they are having difficulties performing and what occupations they perform successfully. The OSA also identifies what occupations the patient finds important. Based on this information, the therapist gathers an idea of what occupations are most meaningful to the patient that he or she is having difficulties engaging in. The therapist can then help the patient improve their skills and abilities in order to improve occupational competence and participation. o The patient also identifies environmental factors that are facilitating and inhibiting occupational performance. Environmental aspects that are identified as problematic can be addressed throughout the therapy process in order to promote occupational engagement within one's natural environment when the patient returns home.
Resources	• More information about the OSA can be found on the Model of Human Occupation Clearinghouse website: http://www.uic.edu/depts/moho/ • Version 2.2 of the OSA manual can be purchased for $43.50 from the following website: http://www.uic.edu/depts/moho/assessments.html • Sample formats of the OSA can be downloaded as a PDF from the following website: http://www.uic.edu/depts/moho/assess/osa.html • The APA citation for the OSA manual is as follows: o Baron, K., Kielhofner, G., Iyenger, A.,

		Goldhammer, V., & Wolenski, J. (2002). *A User's Manual for the Occupational Self-Assessment (OSA), Version 2.2.* Chicago: Model of Human Occupation Clearinghouse, Department of Occupational Therapy, College of Applied Health Sciences, University of Illinois.

(Baron et al., 2002)

Occupational Performance History Interview

The Occupational Performance History Interview, second version (OPHI-II) is based on the Model of Human Occupation (Kielhofner et al., 1998). It is designed to provide a broad and detailed description of the patient's life history, the impact of illness/disability on the patient's life, and how the patient views their future life and the steps he or she would like to take in order to achieve this future view. There are three parts to the OPHI-II. The first part of the assessment consists of a semi-structured interview that explores the patient's occupational life history. The second part measures the patient's occupational competence, occupational identity, and the patient's occupational behavior settings. Lastly, the OPHI-II consists of a life history narrative which is focused on assessing qualitative aspects of the occupational history (Kielhofner et al., 1998).

The semi-structured interview is designed for the therapist to gather necessary and essential information of the patient's life history (Kielhofner et al., 1998). Since it is semi-structured, recommended questions are provided for the therapist to ask the patient in order to determine the necessary information. However, the therapist is not required to ask all questions and also has the freedom to expand on the recommended questions and ask his or her own questions. The therapist must adapt how he or she conducts the interview depending on patient characteristics. The recommended questions of the interview are categorized into a variety of areas, which include occupational roles, daily routine, occupational behavior settings, activity/occupational choices, and critical life events. It is suggested that the therapist administers other assessments prior to

the OPHI-II to get to know the patient better in order to tailor the interview based on patient characteristics (Kielhofner et al., 1998).

The second portion of the OPHI-II consists of three rating scales which measure occupational identity, occupational competence, and occupational behavior settings (Kielhofner et al., 1998). The occupational identity scale assesses information such as beliefs and values the patient holds, how the patient views their personal skills and abilities, what the person finds meaningful and interesting, and what roles the patient identifies with. The occupational competence scale assesses whether the patient maintains a functional and satisfying routine what if the routine fits with the patient's identified values, interests, and roles. The occupational behavior scale assesses both the physical and human environments surrounding work, home, and leisure occupations (Kielhofner et al., 1998).

The life history narrative, which is the final portion of the OPHI-II, reflects all portions of the interview, but will focus on information about occupational roles, activity/occupational choices/ and critical life events. The life history narrative allows the occupational therapist to develop an appreciation of the patient's life history and involves documenting information about the patient's life history obtained during the interview to create a life story of the patient. The life history narrative begins the therapeutic process, as it allows the therapist to obtain a clear picture of the patient in order to develop a connection (Kielhofner et al., 1998).

Obtaining a life history will provide the therapist with a better picture of who the patient is and will also allow the therapist to gain a better understanding

the factors that led up to the initiation of substance abuse. A variety of different environmental aspects are measured using the OPHI-II, including the home, work, school, and leisure environments. This allows the therapist to determine what aspects of the various environments are barriers to wellbeing and recovery, as well as what aspects are positively influencing wellness and the recovery process. Leisure involvement is assessed; with this the therapist can assist the patient in identifying meaningful leisure activities to engage in if none are present. Getting the patient involved with leisure activities can assist with providing positive and health life balance during recovery.

The following three rating scales are used to score the interview: occupational identify, occupational competence, and occupational behavior settings. Scoring is a four-point rating system and the scoring is as follows: four is exceptionally competent occupational functioning, three is good, appropriate, satisfactory occupational functioning, two is some occupational dysfunction, and one is extremely occupationally dysfunctional.

Occupational Performance History Interview, Version 2.0 (OPHI-II)	
About the OPHI-II	• The OPHI-II is designed to provide a broad and detailed description of the patient's life history, the impact of illness/disability on the patient's life, and how the patient views their future life and the steps he or she would like to take in order to achieve this future view • There are three parts to the OPHI-II. o The first part of the assessment consists of a semi-structured interview that explores the patient's occupational life history. o The second part of the OPHI-II is much similar to the OSA, as it measures the patient's occupational competence, occupational identity, and the impact that the patient's occupational behavior settings. o Lastly, the OPHI-II consists of a life history narrative which is focused on assessing qualitative aspects of the occupational history
Methods of Administration	• The OPHI-II involves patient self-report and a semi-structured interview
Number of Items	• Not applicable- structured questions to guide
Length of Administration	• There is no set time limit for this assessment. The assessment can be completed all at once or in intervals.
Administration Requirements	• Must be administered by an occupational therapist • No additional training is required
Scoring	• Three rating scales o Occupational Identity o Occupational Competence o Occupational Behavior Settings • Four-point rating system o 4 = exceptionally competent occupational functioning o 3 = good, appropriate, satisfactory occupational functioning o 2 = some occupational dysfunction

	○ 1 = extremely occupationally dysfunctional
Application to Occupational Therapy	• Areas measured by the OPHI-II and relation to occupational therapy: ○ Through the semi-structured interview, the occupational therapist is able to determine the life history of the patient. Obtaining a life history will provide the therapist with a better picture of who the patient is and will also allow the therapist to gain a better understanding the factors that led up to the initiation of substance abuse. ○ The OPHI-II measures occupational roles and daily routines. It is likely that individuals with a SCI and substance abuse problems are having a difficult time fulfilling their roles and maintaining healthy routines. Therefore, occupational therapists can help patients develop healthier routines and successfully fulfill their roles in order for the patient to live a healthy, satisfying lifestyle. ○ A variety of different environmental aspects are measured, including the home, work, school, and leisure environments. This allows the therapist to determine what aspects of the various environments are barriers to wellbeing and recovery, as well as what aspects are positively influencing wellness and the recovery process. This information will allow the therapist to make environmental adaptations and modifications in order to promote successful recovery. Due to the fact that the leisure environment is assessed, therapists are able to determine if the patient has interests and is engaging in meaningful leisure opportunities. It also allows the therapist to determine if the leisure activities the patient is engaging in are healthy, positive influences to recovery. With this information, the therapist is able to help the patient engage in healthy, meaningful leisure activities in order to promote a healthy recovery.
Resources	• More information about the OPHI-II can be found

	on the Model of Human Occupation Clearinghouse website: http://www.uic.edu/depts/moho/ • The OPHI-II can be purchased for $43.50 from the following website: http://www.cade.uicedu/moho/productDetails.aspx?aid=32 • The APA reference format for the OPHI-II manual is as follows: o Kielhofner, G., Mallinson, T., Crawford, C., Nowak, M., Rigby, M., Henry, A., et al. (1998). *A User's Manual for the Occupational Performance History Interview (Version 2.0) OPHI-II.* Chicago: Model of Human Occupation (MOHO) Clearinghouse, Department of Occupational Therapy, College of Applied Health Sciences, University of Illinois.

(Kielhofner et al., 1998)

Intervention Strategies

A history of substance abuse is common in individuals with a SCI; there are few rehabilitation health care professionals who feel prepared and confident in addressing substance abuse issues. Health care professionals working in a rehabilitation setting are not necessarily trained and do not feel qualified to address substance abuse issues, but there may be many instances in which they need to address the issue as it is a need among the SCI population (Schmidt, Heinimann, & Semik, 1996).

Previous research regarding the attitudes and practices regarding substance abuse interventions by rehabilitation professionals suggests that substance abuse is often either ignored or receives minimal attention during SCI rehabilitation (Schmidt, Heinimann, & Semik, 1996). There are some rehabilitation settings that integrate substance abuse treatment with rehabilitation services, however there is limited research regarding outcomes. Rehabilitation and substance abuse treatment integration may help reduce the substance abuse behaviors among individuals with a SCI. In a study conducted by Mask (1993), SCI patients and staff members were surveyed on attitudes in regards to substance abuse. The majority of the patients reported that staff members recognized substance abuse, but did not provide any treatment nor did they suggest any solutions. When staff members were asked about their response to substance abuse problems, none of them reported providing treatment or suggesting solutions. Instead, the health care professionals either referred the patient to mental health services or ignored the substance abuse problem (Mask, 1993). Many health care professionals

working in a rehabilitation setting fail to address substance abuse, occupational therapists are trained to view patients holistically, and therefore should recognize and address substance abuse problems rather than solely referring patients to mental health services.

This next section of the manual discusses a variety of intervention techniques that occupational therapists can implement with individuals with SCI and substance abuse. Although it is essential to first address the physical deficits of the SCI, the interventions mentioned in this manual are aimed at addressing substance abuse while providing skilled occupational therapy physical rehabilitation services. Intervention strategies discussed include cognitive behavioral therapy (CBT), dialectical behavioral therapy (DBT), rational emotive behavioral therapy (REBT), and motivational interviewing. Each intervention strategy is briefly discussed including application of the approach in patient with substance abuse. Occupational therapy intervention approaches as well as enablement skills from the CMOP are also discussed.

Cognitive Behavioral Therapy

Cognitive Behavioral Therapy (CBT) is described by the National Association of Cognitive-Behavioral Therapists [NACBT] (2010) as the idea that thoughts cause feelings and behaviors instead of people, situations, and events. The basic premise is that if people change the way they think, their actions will be better in similar situations. CBT can often be a fast-paced intervention method and offers more education in that assignments are given out for the patient's to complete in order to encourage the patients to practice the techniques learned. Having a good, strong relationship between the patient and therapist is important in order to instill teaching rationalization and self-directed learning. The therapist and patient work together to develop goals and then come up with effective ways to achieve the goals deemed most meaningful to the patient. According to NACBT (2010), the therapist's roles are to listen, teach, and encourage while the patient's roles are to ask questions, learn, and implement the learning gained during the treatment sessions. CBT encourages the patient to ask questions relating to their perceptions of personal emotions and behaviors in order to gain a better understanding of themselves. Education is important during CBT due to the long term benefits, when individuals understand how and why things are going well, then they are more prone to continue to do well (NACBT, 2010).

Stoffel and Moyers (2004) completed an evidence-based review describing the interventions that have been used with individuals with substance abuse disorders; CBT was found in the research to be an effective intervention measure used by occupational therapists. CBT according to Stoffel and Moyers's (2004)

review is described as therapy utilizing methods from both the behavioral and cognitive theories. CBT focuses on the development of healthy and successful coping skills needed for reducing and dealing with substance abuse. The ultimate goal would be the person changes what they think or do in situations where they may otherwise abuse substances. The authors were able to find research that promoted the use of CBT coping skills in order to reduce alcohol and drug dependency (2004).

Cooper (2012) described the use of motivational interviewing and CBT methods with older adults who are currently abusing substances. Cooper (2012) identified that the increase in substance abuse among older adults is due to the increase in physical and mental challenges that they may be faced with. CBT is described as being used with older adults who have substance abuse disorders to help the individual identify and challenge thought patterns, assess and enhance social support networks, increase activities that are meaningful and provide feelings of accomplishment. Individuals were encouraged to develop a relapse plan. CBT focuses on helping individuals learn that behaviors begin with thoughts and thoughts lead to emotions and behaviors are derived from those thoughts and emotions (Cooper, 2012).

CBT may be useful when working with individuals with SCIs to develop healthy coping skills while identifying specific behaviors and emotions that may have contributed to the development of the substance abuse patterns. CBT may also be beneficial in identifying a plan of action to deal with triggers and relapse during and after treatment. Since physical limitations are a primary outcome of

SCIs, the individuals may have distorted thoughts about their ability to complete daily or desired occupations. CBT may assist with identifying ways to stop the negative thoughts from interfering with their overall quality of life.

Occupational Therapy Intervention Approaches

Occupational therapists can utilize CBT in order to assist individuals dealing with substance abuse post-SCI. Specific approaches that can be implemented are establish/restore, and maintain. Establish/restore is designed to change patient variable in order to establish a skill or ability that has been impaired (AOTA, 2008). With this approach the therapist can provide education in order to assist the patient with identifying coping skills and establish appropriate goals in order to restore healthy self-management abilities. Maintain is an approach that is designed to provide support which will assist the patients to continue to meet or preserve their occupational performance needs. Although the patient will be primarily responsible for the learning and application of the techniques, the therapist will continue to teach and encourage the patient throughout the process in order to increase integration of the education guided by CBT.

Enablement Skills from the Canadian Model of Occupational Performance

When using CBT as a means for substance abuse interventions, the occupational therapy enablement skills of the Canadian Model of Occupational Performance assist with identifying the role of the therapist during patient interaction. The enablement skills that fit best with this intervention are collaborate, coach, educate, engage, and coordinate (Townsend & Polatajko, 2007).

Collaboration is beneficial due to the power-sharing aspect and being able to work with the patient on the issues that are important to them. The therapist and the patient will be able to work towards common goals, establish trust with each other, and will be able to effectively communicate in order to engage in the CBT process. This also fits with the enablement skill of coaching as an ongoing partnership is developed between the patient and the therapist, more results can be produced in terms of improving performance and enhancing their quality of life (Townsend & Polatajko, 2007).

Education may be needed in order to familiarize the patient with CBT and how the process works. The patient may need reminders, handouts, or demonstrations depending on their level of understanding and current cognitive level. It is important that the patient be involved and engaged in the process throughout the treatment in order to ensure client-centeredness and to be able to incorporate the patient's meaningful activities into the treatment (Townsend & Polatajko, 2007).

In order to assist the patients with effectively dealing with substance abuse, it may be necessary to coordinate other services for the patient outside of the primary treatment services. Finding support groups or facilitating connections with other services may be beneficial for the treatment of substance abuse. The patient should be encouraged to be an active member of their treatment and should be encouraged to assist the therapist with coordinating outside services (Townsend & Polatajko, 2007).

Dialectical Behavioral Therapy

Dialectical Behavioral Therapy (DBT) was developed in part by Dr. Marsha M. Linehan, as a tool to assist patients with building a life worth living. DBT ultimately teaches the patients to envision, articulate, pursue, and sustain goals that help to steer their lives away from substance abuse behavior (Dimeff & Linehan, 2008). Focusing on reducing symptoms and problem behaviors can help patients with substance abuse develop healthy coping mechanisms. DBT was originally developed for use with individuals with Borderline Personality Disorder (BPD) and has been adapted for use with individuals with substance abuse (Dimeff & Linehan, 2008).

The targets of DBT for individuals with substance abuse focus on the behaviors that interfere with quality of life. The main focuses are decreasing abuse of substances, alleviating physical discomfort associated with abstinence and/or withdrawal, reducing cravings and temptations, reducing the availability and opportunities for use by eliminating unhealthy people, objects, and places associated with the use of substances, reducing behaviors related to substance abuse, increasing development of healthy lifestyle and behaviors through support systems, and seeking out healthy environments (Dimeff & Linehan, 2008). DBT provides a holistic way to address substance abuse for patients by addressing present issues, looking at future goals, and ways to prevent to relapse.

In general, DBT is aimed at assisting individuals in reducing self-destructing behaviors by teaching emotion-regulation skills. The use of mindfulness skills, Cognitive Behavioral Therapy (CBT) skills and strategies are used to assist

individuals to develop personal awareness, acceptance of previous experiences which may have led to substance abuse, and to be able to utilize the CBT skills and strategies to regulate their urges, emotions and behaviors (Courbasson, Nishikawa, & Dixon, 2011).

DBT is initiated by the therapist by asking the patient to commit to stop using substances. The commitment doesn't have to be lengthy but the patient has to feel it will be attainable, for example one day, one week, and one month. This helps the patient to increase success at achieving personal goals. The next step involves the patient learning to cope with the urges, cravings, and triggers. Skills will be learned that better prepare the patient for potential situations that may arise during recovery (Dimeff & Linehan, 2008).

The utilization of DBT in a therapy setting may beneficial to patients by initiating the use of mindfulness skills. Patients with spinal cord injuries may have difficulties with staying in the moment due to a new disability or inability to properly cope, and the mindfulness skills that DBT offers may assist the patients with development of healthy coping and self-regulation skills. The resources given were on the topic of DBT and substance abuse; research is needed to document the application of DBT in patients with SCIs.

Occupational Therapy Intervention Approaches

Using DBT as an intervention method for individuals with substance abuse and SCIs can be beneficial in terms of reducing self-destructive behaviors, promoting change and acceptance to ultimately increase the patient's overall quality of life. The establish/restore approach is designed to change patient

variables in order to establish a skill or ability that has been impaired (AOTA, 2008). DBT assists individuals with establishing and developing coping skills which will be beneficial for potential cravings and triggers that may be present. The establishment of coping skills may be new skills that the individuals are learning so it is important to guide them through the process. Assisting the patients with developing small personal goals can help to promote success in their treatment. The environment for the session needs to be safe and comfortable. The maintain approach is designed to provide the support that allows patients to continue to meet their occupational needs once their performance capabilities have been established/restored (AOTA, 2008). This specific approach will be more beneficial once the patients have maintained abstinence and have developed healthy coping skills that allow them to engage in their desired occupations. The patient may continue to require cues during treatment but once they are provided with the skills needed to decrease self-destructive behaviors such as substance abuse they will hopefully be better able to manage their lives as occupational beings.

Enablement Skills from the Canadian Model of Occupational Performance

The occupational therapy enablement skills of the Canadian Model of Occupational Performance play a role in how the therapist interacts with the patient through the use of DBT. The enablement skills that fit best with this intervention method are coach, collaborate, educate, and engage (Townsend & Polatajko, 2007). Collaboration is beneficial due to the power-sharing aspect and being able to discuss with the patient ideas for facilitating change and acceptance. The therapist and the patient will be able to work towards common goals,

establish trust with each other, and will be able to effectively communicate in order to complete the process of DBT. Within DBT, the patients are going to be beginning their journey towards abstinence and developing healthy life balance. These aspects fit with the enablement skill of coaching as an ongoing partnership is developed between the patient and the therapist, more results can be produced in terms of improving performance and enhancing their quality of life (Townsend & Polatajko, 2007).

The process of DBT may require education so it will be important to share with the patients the process and potential outcomes of DBT so everyone is one the same page. It is important that the patient is engaged in all aspects of the intervention by facilitating participation in meaningful occupations. By promoting engagement, the patients will be able to learn through personal experiences and with assistance from the therapist; the patients will be guided and engaged in new experiences (Townsend & Polatajko, 2007).

Rational Emotive Behavior Therapy

Rational Emotive Behavior Therapy (REBT) was developed by Albert Ellis in 1955 as a cognitive model that focuses on emotional responses. REBT became the first modern cognitive-behavioral model (CBT). The model has a focus on the irrational beliefs of an individual and it assists the individual with identification of those beliefs and events which may have caused distorted thoughts. REBT views the individuals as holistic beings and offers them freedom to have control over their emotional and behavioral responses. Differentiating between healthy and unhealthy emotions is a characteristic of REBT; the process challenges the individual to critically look at the distortions in thinking to determine changes that need to be addressed (Bendersky, 2004).

REBT uses the ABCDE method for demonstrating the cause and effect link between beliefs, events and emotional and behavioral consequences. The ABCDE method is defined as follows: A (Adverse or activating events), B (Beliefs- rational and irrational), C (Consequences- emotional and behavioral), D (Disputing of irrational beliefs), and E (Effects of the consequences) (Bendersky, 2004). Bendersky (2004) identified specific techniques that are used with REBT cognitive techniques used with REBT are often logical and provide questions for the individual to reflect upon and examine the truth behind their beliefs. The emotive techniques can be dramatic but are meant to reinforce and facilitate positive outcomes. Behavioral techniques are utilized to encourage the individuals to change or modify their behaviors in order to facilitate a change in personal beliefs.

This model aims to prove that it is not the events that cause emotional reactions but it's the individual's attitudes and beliefs about the events (Bendersky, 2004).

The process of REBT is useful for individuals struggling with negative beliefs about themselves. Individuals may have distorted thoughts without a known cause or source. The REBT model assists the individuals with identifying the events that contributed to the negative thoughts, ideas and behaviors. The emotional and behavioral responses are the result of how individuals react to the beliefs, thoughts, and ideas about themselves (Bendersky, 2004).

Supplies that are helpful in assisting the patient to see the impact of substance abuse include using a white board and a journal. A white board helps the patient to see how events in their lives affect their beliefs about themselves and in turn produce consequences that are carried out through behaviors and emotions. For further reflection, have someone write down the information obtained so that the patient is able to have it for personal reference. Often times the patient is given homework in which they are asked to journal or reflect upon how their life would be different if they no longer had the belief that was identified about themselves. This can help the patient to begin to picture the changes that would be evident without the irrational thoughts, beliefs and ideas that may be present. The REBT process may be beneficial for patients with spinal cord injuries (SCIs) as there may be underlying determiners for the development and/or continuation of substance abuse. REBT will assist the individuals with taking a step back and thinking about how their personal belief about themselves and their disability has affected their actions, behaviors and emotions.

Occupational Therapy Intervention Approaches

Individuals with substance abuse can benefit from REBT sessions by assisting them with identification of events, beliefs and consequences of their emotional responses. The establish/restore approach is designed to change patient variables in order to establish a skill or ability that has been impaired (AOTA, 2008). During the REBT process the individuals are challenged to think about their negative beliefs and the consequences that have arose from those beliefs. Once the individuals have identified the cause, they are encouraged to change their thinking in order to view themselves and their situation in a more positive light. The environment for the session needs to be safe and comfortable enough for the patient in order for them express themselves fully. The patient is encouraged to self-reflect on past experiences and current negative beliefs and if the session is held in a group, the group members can help the patient to further identify connects or disconnections between events, consequences and beliefs.

Enablement Skills from the Canadian Model of Occupational Performance

When utilizing REBT as a means for substance abuse intervention, the occupational therapy enablement skills of the Canadian Model of Occupational Performance play a role in how the therapist interacts with the patient. The enablement skills that fit best with this intervention method are coach, collaborate, and educate (Townsend & Polatajko, 2007).

Collaboration is beneficial due to the power-sharing aspect and being able to work with the patient on the issues that are important to them. The therapist and the patient will be able to work towards common goals, establish trust with

each other, and will be able to effectively communicate in order to engage in the steps of REBT. REBT involves self-exposure of personal and potentially painful life events so if a trusting relationship is established it may promote more opportunities for dealing with occupational issues. This fits with the enablement skill of coaching as an ongoing partnership is developed between the patient and the therapist, more results can be produced in terms of improving performance and enhancing their quality of life (Townsend & Polatajko, 2007).

Since REBT may be unknown to patients and/or other staff members, education is an important enablement skill that may be necessary to complete prior to beginning the session. Through education the patients will understand the steps of REBT and the importance of identifying the beliefs that may be deemed irrational. Depending on their level of understanding, continued education may be needed throughout the session in order to facilitate the patient's full self-expression of personal life events and beliefs about themselves.

Motivational Interviewing

Motivational interviewing is an intervention that is helpful when working with individuals with substance abuse. According to Miller and Rollnick (as cited in Stoffel and Moyers, 2004) motivational interviewing involves improving the patient's intrinsic motivation to change by utilizing client-centered communication methods as well as an empathetic and nonjudgmental approach. Many individuals lack the motivation to change or have mixed emotions about changing their behaviors. Therefore, the ultimate goal of motivational interviewing is not necessarily to immediately change the behaviors, but rather to improve motivation needed to make changes (SAMHSA, 2010). Motivational interviewing is successful when paired with other interventions, such as CBT (Brown, 2011).

According to Miller and Rollnick (as cited in Brown, 2011), there are three fundamental approaches of motivational interviewing, these are collaboration, evocation, and autonomy. Collaboration refers to the patient and therapist working together as partners. It is important to utilize a collaboration approach rather than a confrontational approach, which often occurs with treating patients with substance abuse. Confrontation can lead to the patient becoming defensive and withdrawing from therapy. However, collaborating with patient allows the patient to feel more comfortable and promotes engagement in therapy. Evocation means allowing the patient to identify his or her own goals and values towards change. Although it is important to help patients develop goals and recognize values, it is important that therapists don't develop goals for them. Autonomy means that the patient is self-directed and is able to make his or her

own choices. When working with patients with substance abuse, occupational therapists must refrain from authority, which means telling the patient what to do. Instead, therapists need to collaborate with the patient and allow them to make their own choices. While allowing patients to make their own choices, it is important that therapists still encourage and motivate patient's to make safe, healthy choices (Miller & Rollnick, as cited in Brown, 2011).

There are also four general principles of motivational interviewing: expressing empathy, developing discrepancy, rolling with resistance, and supporting self-efficacy (Brown, 2011). It is important to provide empathy so that the patient knows they are valued and accepted, as they usually do not feel accepted due engaging in activities that are not valued by society, including illegal substance use. In order to be empathetic, the therapist needs to relate and communicate with patients without passing judgments, criticism, or blame. Skills required for providing empathy include active and reflective listening and conveying respect and acceptance (Brown, 2011).

The purpose of developing discrepancy is to allow the patient to recognize the discrepancy between the individual behaviors and their goals and values. It is important that the therapist does not tell the patient the pros and cons about their behaviors. Instead, the therapist should allow the patient to form their own perspectives on their behaviors. In order to do this, a decisional balance activity is recommended, in which the patient makes a chart identifying the reasons to change behaviors versus the reasons to not change behaviors. The hopes of this

exercise are that the patient's will identify cons of not changing behaviors and pros of changing their behaviors (Brown, 2011).

Rolling with resistance refers to avoiding arguing and opposing the patient's resistance. Instead of arguing and opposing resistance, it is important to acknowledge and identify the patient's resistance to change. The therapist should let the patient know that he or she will not force them to do anything and that it is the patient's responsibility to make necessary changes. It is also a good idea to bring the problem back to the patient in the form of a question (Brown, 2011).

It is important for occupational therapists to support self-efficacy, as it helps patients believe that they are capable of making changes. No matter how much an individual wants to change their habits or behaviors, it is difficult to do so without self-efficacy. In order to support self-efficacy, the occupational therapist should let the patients know that you believe he or she can be successful in making changes. The therapist should not make changes for the patient, but should be there for support and aid in the process. In order to help patients make changes, it is effective to point out previous successes and strengths of the patient as well as promote autonomy and self-efficacy (Brown, 2011). Individuals with substance abuse often struggle to find the motivation to change their behaviors or sustain behavioral chances across time. It is the role of the occupational therapist to help patients find the motivation they need to make healthy choices and change their behaviors (Brown, 2011).

Occupational Therapy Intervention Approaches

When implementing motivational interviewing with patients with substance abuse, it is important for occupational therapists to utilize a create/promote approach, which is an approach that does not assume a disability is present. The create/promote approach is designed to provide enriched contextual and activity experiences to enhance occupational performance (AOTA, 2008). When implementing motivational interviewing with individuals with substance abuse, it is important that the occupational therapist creates a healthy, safe, and comfortable environment, as many individuals may not feel comfortable talking about their substance abuse problem. In order to create a healthy environment in which the patient feels comfortable talking about their substance abuse, it is important for the occupational therapist to refrain from judgments, demonstrate acceptance, express empathy, provide support, and collaborate with the patient. It is also important for the occupational therapist to create situations in which the patient is able to make their own decisions and identify their goals.

The establish/restore approach is designed to change patient variables and to establish skills that have not yet been learned or to restore skills that have been impaired (AOTA, 2008). When utilizing the establish/restore approach to address substance abuse, the therapist should aim to help the patient establish self-efficacy, confidence, and motivation in order to change their behaviors and remain abstinent.

The restore approach should also be utilized to target areas of occupation the patient is having difficulties engaging in. The various substance abuse

screening instruments and occupational therapy assessments recommended in this manual target performance in a variety of different occupations. Occupations the patient reports difficulty with should be targeted. The focus should be on restoring skills that the patient once had in order to successfully engage in that occupation. For example, if a patient is having difficulties fulfilling work duties due to SCI or substance abuse, the occupational therapist should create environments in which the patient works on restoring skills needed to successfully perform work duties.

Enablement Skills from the Canadian Model of Occupational Performance

When considering the occupational therapy enablement skills of the Canadian Model of Occupational Performance, there are two enablement skills that would be beneficial to use when working with patients with substance use when implementing motivational interviewing. One of these enablement skills is collaborating (Townsend & Polatajko, 2007). When implementing motivational interviewing, it is important to collaborate with the patient instead of doing things for them or using a confrontational approach. When collaborating with the patient, the therapist must acknowledge the patient's thoughts and ideas, give them choices, and create a healthy, respectful communication system. Coaching may be another enablement skill to implement with motivational interviewing. When coaching, it is important to create an ongoing partnership and provide support and encouragement needed to improve motivation and make healthy changes (Townsend & Polatajko, 2007).

Discharge Planning

Discharge planning is a part of the patient's care that should begin as soon as the patient is brought into the hospital or the rehabilitation center. Looking ahead to the future to ensure successful occupational performance and to ensure that the patient's emotional and physical needs will be met can truly increase the quality of life for individuals with spinal cord injuries (SCIs) and substance abuse. Discharge needs depend on the level of care and assistance that continues to be required upon leaving the rehabilitation unit. Referrals are made with the patient's best interest in mind. According to Whiteneck et al. (2011) often times occupational therapy and physical therapy services are continued post-discharge from an inpatient rehabilitation setting. Again dependent on the severity of the injury and whether or not the established patient goals were met, outpatient services can be recommended to continue pursuing goals of abstinence from substances and independence in daily occupations.

Considerations of community services that are available to the patient need to be taken into context prior to the transition from inpatient setting. The availability of substance abuse and SCI services can affect when the individual transitions from inpatient to post-discharge services; this affects more patients living in rural areas. Patients with SCIs transitioning from an inpatient setting often utilize home health services more often than other services. Some patients continue with outpatient services while others discontinue services. Whiteneck et al. (2011) suggested that the reason for an increase in the use of occupational and physical therapy services post-discharge was due to a need for activity-based

groups which matched the demand for individuals with SCIs to maximize their functional abilities.

When working with individuals with substance abuse, it is important for occupational therapists to make referrals to further substance abuse treatment or mental health services upon discharge from occupational therapy. It is important to provide the patient with community resources so that they are able to continue to get some sort of therapy or treatment regarding their substance abuse issue and engage in meaningful occupations. In order to promote a successful recovery, it is recommended that patients continue to seek substance abuse and SCI treatment such as 12 step programs, support groups, or inpatient/outpatient treatments for both substance abuse and SCI to monitor coping skills and adjustment to the SCI and substance abuse interventions.

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